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2080. Forest Admin.
Report of the
Northern Circle,
Bombay Presidency
for the year
1890-91.
Sub: Forests—
Admin. Reports—
Bombay Presidency—
1890-91.

No 4291 of 1891-92.

From

A T SHUTTLEWORTH, Esq.,
Conservator of Forests, Northern Circle;

To

T. D MACKENZIE, Esq.,
Chief Secretary to Government,
Revenue Department,
Bombay.

Poona, 30th October 1891.

Sir,

I have the honour to submit herewith the Forest Administration Report of the Northern Circle for the official year 1890-91 with its prescribed subsidiary statements

I have the honour to be,
Sir,
Your most obedient Servant,

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Through the Commissioners, Northern and Central Divisions.

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FOREST ADMINISTRATION REPORT, NORTHERN CIRCLE, FOR 1890-91.

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FOREST ADMINISTRATION REPORT

OF THE

NORTHERN CIRCLE, BOMBAY PRESIDENCY,

FOR THE OFFICIAL YEAR 1890-91.

INTRODUCTION.

The year has been remarkable in the annals of the Forest history of the Presidency proper for the reasons that—

(*a*) a set of rules for the regulation of grazing in forest areas in all the districts of the Presidency proper, except in Kánara, was published for general guidance under Government Resolution No. 3595 of the 23rd May 1890, in the Revenue Department;

(*b*) orders of Government were issued in their Resolution No. 650 of the 26th January 1891, in the Revenue Department, prescribing the relations to exist in future between Land Revenue and Forest officers; and also to make clear the intentions of His Excellency the Governor in Council as to the treatment of privileges accorded to villagers in forest.

2. It has likewise been a notable year in the history of Forest administration of the Northern Circle inasmuch as the revenue has again beaten the record, having been the highest ever attained.

3. The total forest area of the Circle shows a decrease of 315 square miles, compared with the figures of the past year. This decrease is only a paper one, and is owing to the rectification of incorrect calculation of forest areas in some districts, which has been detected under the revision survey, and also by help of the Indian atlas sheets; it is not due to disforestations of forest area. On the contrary, over 115 square miles were added to the area of Reserved Forests in charge of the Forest Department. In addition to this 454 square miles of provisionally notified lands under Sections 4 and 28 were still awaiting Forest Settlement inquiries at the end of the year.

4. Settlement inquiries in connection with 40 square miles of forest area have been undertaken and completed.

5. Forest boundaries to the extent of 1,682 linear miles have been defined upon the ground by the erection of 20,676 special forest boundary-marks.

6. Alterations which had been proposed by a committee of local Revenue and Forest officers, last year, in the Khándesh Code of Privileges were approved and sanctioned by Government; and have been published. A concession was made to the people of the Thána Collectorate, permitting them to remove free of charge all small branchwood of 6″ and less in girth from the coupes, for use as ráb or firewood. No new concessions of importance, except free grazing, have been granted in other divisions.

7. The operations of the Working Plans Branch were again confined practically to the two forest divisions of Thána; and much useful work has been accomplished.

8. The Forest Survey Party has carried on its operations in the divisions of Poona, Ahmednagar, North and South Thána, and satisfactory progress has been made in Triangulation, Traverse and Topographical Surveys in the divisions concerned.

9. There was no change, during the year, in the numerical strength and cost of the superior and subordinate protective staff and of office establishment.

10. The progress of reproduction, both natural and artificial, has been very satisfactory indeed, the rainfall, though late, having been favourable.

11. Fire conservancy, on the whole, shows progressive improvement, with the exception of the Surat and the West Khándesh Divisions, where again the forests suffered greatly from fire.

12. The number of forest offences for which prosecutions were instituted was nearly the same as last year, but that of the cases compounded was much

in excess, being 10,251 against 6,485 in the year preceding, and the sums realised from the compositions amounted to Rs. 28,855.

13. The number of cattle impounded during the year was greatly in excess of the past year, being 302,593 against 197,356.

14. The number of cattle provided with pasturage in open forests on payment of fees was 1,258,372, and 696,339 cattle have enjoyed free grazing inside the open forests; if these animals had been required to pay the small fee of 4 annas for the season's grazing of 7½ months, the forest revenues would have benefited by Rs. 1,74,085.

15. The receipts from grass and grazing have risen from Rs. 3,42,037 to Rs. 3,61,984, in 1889-90, thus fully maintaining the steady expansion of revenue from this source since 1878.

16. The following statement shows the names of the superior Forest officers, who have been conducting the administration of the forests during the year, and the stations they have occupied, with other particulars :—

Northern Circle.

Mr. A. T. Shuttleworth, Conservator of Forests, Northern Circle, availed himself of three months' privilege leave from 16th May to 18th August 1890, dring which time Mr. R. C. Wroughton acted for him in charge of the Nuorthern Circle.

No.	Forest Division.	Name of Officer.	Rank.	Designation.	From.	To.	Remarks.
1	North Thána' ..	Mr. F. Gleadow .	Deputy Conservator of Forests, 4th Grade.	Divisional Forest Officer.	1st April 1890	31st March 1891.	
		,, A. C. Robinson ..	Acting Sub.-Assistant Conservator, 3rd Grade.	South Sub.-Division Officer	Do. ..	6th Sept. 1890.	
		,, J. Baptista ..	Sub. *pro tem.* Sub.-Assistant Conservator, 3rd Grade.	Do. .	7th Sept. 1890 ..	6th Oct. 1890.	
		,, A. C. Robinson ..	Acting Sub.-Assistant Conservator, 3rd Grade.	Do. ..	7th Oct. 1890 ..	31st March 1891.	
		,, J. Baptista .	Sub. *pro tem.* Sub.-Assistant Conservator, 3rd Grade.	North Sub.-Division Officer	1st April 1890 .	Do.	
2	South Thána .	Mr. G. P. Millett .	Assistant Conservator of Forests, 1st Grade.	Divisional Forest Officer.	Do. . ..	9th Sept. 1890.	
		,, F. Gleadow .	Deputy Conservator, 4th Grade.	Do. .	10th Sept. 1890 .	6th Nov. 1890.	
		,, A. Stewart ..	Do. do.	Do. ..	7th Nov. 1890 ..	8th Dec. 1890.	
		,, G. P. Millett ..	Assistant Conservator, 1st Grade.	Do. ..	9th Dec. 1890 ..	31st March 1891.	
		,, J. H. Clabby .	Sub.-Assistant Conservator, 3rd Grade.	South Sub.-Division Officer.	1st April 1890 ..	15th Jan. 1891.	
		,, L. S. Osmaston .	Assistant Conservator, 3rd Grade.	Do. .	16th Jan. 1891	31st March 1891.	
		,, J. H. Clabby .	Sub.-Assistant Conservator, 3rd Grade.	North Sub.-Division Officer.	1st April 1890	Do.	
3	East Khándesh	Mr. F. R. Desái .	Deputy Conservator, 1st Grade.	Divisional Forest Officer.	Do. ..	Do.	
4	West Khándesh	Mr. R. S. Fagan ..	Do. 4th Grade.	Do. ..	Do. .	31st August 1890.	
		,, F. R. Desái .	Deputy Conservator of Forests, 1st Grade.	Do. ..	1st Sept. 1890 ..	30th Sept. 1890.	
		,, R. S. Fagan .	Do. 4th Grade.	Do. .	1st Oct. 1890 ..	2nd Feb. 1891.	
		,, F. R. Desái .	Do. 1st Grade.	Do. ..	3rd Feb. 1891 .	10th March 1891.	
		,, R. S. Fagan .	Do. 4th Grade.	Do. ..	11th March 1891 ..	31st March 1891.	
		,, G. S. Hingé .	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	Sub-Division Forest Officer.	1st April 1890 ..	Do.	
5	Násik	Mr. W. G. Betham	Deputy Conservator of Forests, 2nd Grade.	Divisional Forest Officer.	Do. ..	13th May 1890.	
		,, W. A. Wallinger.	Sub.-Assistant Conservator of Forests, 3rd Grade.	Do. ..	14th May 1890 ..	19th August 1890.	
		,, W. G. Betham .	Deputy Conservator of Forests, 2nd Grade.	Do. ..	20th August 1890	31st March 1891.	
		,, W. A. Wallinger.	Sub.-Assistant Conservator of Forests, 3rd Grade.	Sub.-Division Forest Officer.	1st April 1890 ..	Do.	
6	Ahmednagar .	Mr. A. D. Wilkins .	Deputy Conservator of Forests, 4th Grade.	Divisional Forest Officer.	Do. .	Do.	
	Poona	Mr. R. C. Wroughton.	Do. 2nd Grade.	Do. .	Do. .	15th May 1890.	
		,, W. C. Betham	Do. do. .	Do. ..	16th May 1890 .	18th August 1890.	
		,, R. C. Wroughton.	Do. do. .	Do. ..	19th August 1890.	31st March 1891.	
		,, W. R. Gaunde .	Sub.-Assistant Conservator of Forests, 2nd Grade.	Sub-Division Forest Officer.	1st April 1890 .	Do.	
8	Sátára ..	Mr. C. Greatheed	Deputy Conservator of Forests, 3rd Grade.	Divisional Forest Officer.	Do. .	Do.	
		,, L. D. Joshi .	Sub.-Assistant Conservator of Forests, 1st Grade.	Sub.-Division Forest Officer.	Do. .	Do.	
9	Sholápur .	Mr. S. Hormidge .	Assistant Conservator of Forests, 1st Grade.	Divisional Forest Officer.	Do. ..	Do.	
10	Surat .. .	Mr. R. H. Madan .	Acting Assistant Conservator of Forests, 3rd Grade.	Do. .	Do. ..	Do.	
11	Panch Mahals .	Mr. H. W. Keys .	Assistant Conservator of Forests, 1st Grade.	Do. .	Do. ..	Do.	
12	Working Plans.	Mr. T. B. Fry .	Deputy Conservator of Forests, 3rd Grade.	Do. .	Do. ..	29th May 1890.	
		,, R. C. Wroughton	Acting Conservator of Forests, N. C.	Do. ..	30th May 1890 ..	19th June 1890.	
		,, F. Gleadow .	Deputy Conservator of Forests, 4th Grade.	Do. ..	20th June 1890 ..	4th Sept. 1890.	
		,, R. C. Wroughton.	Do. 2nd Grade.	Do. ..	5th Sept. 1890 .	29th Sept. 1890.	
		,, T. B. Fry ..	Do. 3rd Grade.	Do. ..	30th Sept. 1890 ..	31st Mar. 1891.	

CHAPTER I.

AREA AND BOUNDARIES.

1.—AREA.

17. The areas of Reserved and Protected Forest of the Northern Circle at the beginning and end of the year, together with the additions thereto, and the subtraction therefrom, during the year, are shown in the following table:—

Division.	Nominal area on 1st April 1890.				After rectification of errors in old survey areas, true area on 1st April 1890.				Added during the year				Disforested during the year				Area on 31st March 1891.			
	Reserved.		Protected		Reserved.		Protected.		Reserved		Protected.		Reserved.		Protected.		Reserved.		Protected.	
	Sq m.	Acs.	Sq m	Acs	Sq m.	Acs.	Sq. m.	Acs.	Sq m.	Acs.	Sq. m.	Acs.	Sq. m	Acs.	Sq m	Acs.	Sq. m	Acs.	Sq m.	Acs.
North Thána	372	21	330	16	372	21	330	16			..		0	62	0	114	371	599	329	542
South Thána	438	9	342	378	313	3[illegible]	342	534	13	466			1	305	7	129	325	417	335	405
East Khándesh	797	552	53	161	738	596	53	183	55	117	.		2	413	35	278	791	299	17	745
West Khándesh	1,198	491	195	151	1,092	31	195	151	16	236			15	274	11	27	1,092	675	184	124
Násik .	1,192	268			1,192	268	.		0	51			0	13	.		1,192	306	.	
Ahmednagar ..	864	483	11	114	827	237	11	297	4	197	.		0	2	.		831	432	11	297
Poona	742	507	...		742	507	..		5	556			5	186	.		743	237	..	
Sátára	682	13	0	631	682	13	1	8	4	205			0	154	..		680	67	1	9
Sholápur ...	276	602	...		276	602	...		.		.		0	10	.		276	592	.	
urat	68	120	..		68	120	.		0	25			..		.		68	145	.	
Dánga .. .	678	320	...		678	320			..		..		.		.		678	320	.	
Kaira	..	39	..		0	39	.		.		.		...		.		0	39		
Panch Mahále	183	123	138	276	183	123	138	276	14	455	.		..		23	466	197	578	114	450
Ahmedabad .	33	442			33	442	.	.			.		..		.		33	442		
Total .	7,529	150	1,071	447	7,201	366	1,072	185	114	391			25	139	77	374	7,290	618	994	451

18. The numerous, and sometimes considerable, errors, which have been discovered by the revision survey, in the work of the old surveys of the Bombay Revenue Survey Department, have necessitated the addition, to the table, of a column, to show the paper corrections necessary in those cases where the new survey and the old do not agree as to the area of the same piece of land It is tolerably certain that this special column will continue to be a necessity so long as there are any revision surveys in progress. These paper corrections are shown below :—

Division.	Reserved		Protected.	
	Sq. m.	Acs.	Sq. m.	Acs.
South Thána	—124	393	+0	156
East Khándesh	- 58	597	+0	22
West Khándesh	—106	468	+	...
Ahmednagar	—37	246	+0	183
Sátara	.....		+0	17
Total ...	—327	424	+0	378

19. The signs + and — mean respectively that the new area is more or less than the old. The final adjustment of figures shows a total paper loss of 327 square miles and 424 acres of Reserved Forest, and a paper gain of 378 acres of Protected Forest.

2.—FOREST SETTLEMENTS.

20. The selection of lands for conversion into forest, which in official correspondence is called very inappropriately "*forest demarcation*" was carried on concurrently with the work of forest settlement by special "Forest Settlement and Demarcation Officers" in the Thána and Khándesh Collectorates only.

21. In the other Collectorates the Forest Settlement Office has been carried on to a greater or less extent by the Assistant or District Deputy Collectors, in addition to their own duties. In most of these cases the Forest Settlement work consisted principally of acquiring odd parcels of land included within the already sanctioned scheme of forest demarcation or reservation. In this direction much still remains to be done.

22. The real existing areas of land added and disforested during the year are shown in the columns allotted for the purpose. The additions reached 114 square miles and 391 acres; the disforestments were 25 square miles and 139 acres. The total area at the end of the year, subject to any future revision survey rectifications which may appear, stands at 7,290 square miles and 618 acres of Reserved Forest, and 994 squre miles and 451 acres of Protected Forest, making a grand total of 8,285 square miles and 429 acres. Much of the Protected Forest disforested has been so treated only with a view to its inclusion in the "Reserved" class.

23. The following statement will show the progress of the demarcation work (meaning selection of forest areas) in the several Collectorates of the Northern Circle during the year:

Collectorate.	Number of Tálukas.	Number of Tálukas.			Remarks.
		In which demarcation has been completed and sanctioned.	In which demarcation is incomplete.	In which demarcation is not undertaken.	
Thána	10	6	1	3*	*Dábánu, Murbád and Sháhápur.
Khándesh ...	16	11	5	...	
Násik	12	11	1	...	
Ahmednagar ...	11	11	...	...	
Poona	8	8	...	...	
Sátára	11	11	...	...	
Sholápur	7	7	...	...	
Surat §	8	5	...	3†	†There are no forests in these tálukas.
Panch Mahála ...	3	3	...	...	
Ahmedabad ...	7	1	...	6‡	‡Do. do.
Total ..	93	74	7	12	

§ Exclusive of Dángs for which Special Forest Demarcation Officer has been appointed during the year, but the work is incomplete yet, and of which mention is made hereafter.

24. Although the demarcation in 74 tálukas has been completed and sanctioned, still there are in these tálukas many occupied lands, included within the sanctioned forest boundaries, yet to be acquired. Negotiations are being carried on for the obtainment of these lands by giving other available waste lands in exchange for them, or by payment of compensation, for the surrender of occupancy or proprietary rights, and the following statement will show the areas obtained, either by exchange or by payment of compensation, during the year :—

Division.	Area.		Price.			Remarks.
	A.	g.	Rs.	a.	p.	
North Thána	.....		.....			
South Thána	1,700	0	19,076	3	6	Acquired for Tánsa lake catchment.
East Khándesh	288	21	1,740	10	8	
West Khándesh	.....		.....			
Násik	74	30	.....			By exchange.
Ahmednagar	424	25	1,570	6	4	
Poona	17	33	185	0	0	
	380	4	.....			Do.
Sátára	2,767	27	.....			Do.
Sholápur	58	28	452	10	0	
	63	26	.....			Do.
Surat	.....		.....			
Panch Mahals	.....		.....			
Total ...	5,775	34	23,024	14	6	

25. The sum of Rs. 116-4-0 was paid in commutation of grazing rights in the village of Bembadohol, Táluka Mával (Poona Division), and Rs. 133-7-0 was similarly awarded, but not paid, to villagers of Boraoli, also in the Mával Táluka, with reference to paragraph 31 of last year's report.

26. The areas added under Sections 19, 28, and notified for enquiry under Section 4, during the year are shown below :—

Division.	Section 19.	Section 28.	Section 34.*		Total.		Section 4.
			Reserved.	Protected	Reserved.	Protected.	
	A. g.	A. g	A. g.	A. g.	A. g	A. g.	A g.
North Thána	...	.	...	...	...	...	324 8
South Thána	8,786 19	...	...	...	8,786 19		1,875 0
East Khándesh ...	35,317 0	...	...	...	35,317 0	...	...
West Khándesh .	10,476 0	...	. .	...	10,476 0	. .	12,783 0
Násik	51 0	...	...	. .	51 0		146 22
Ahmednagar	2,757 10	...	...	...	2,757 10	...	1,394 5
Poona	3,756 4	..	...	...	3,756 4	...	1,333 21
Sátára	2,767 27	...	..	...	2,767 27	...	1,112 8
Sholapur	...	..	.	...	...		460 37
Surat	25 5	...	...	...	25 5	...	25 5
Panch Mahála ...	9,415 0	...	...	...	9,415 0	.	12,133 0
Total ...	73,351 25	...	..	...	73,351 25	. .	31,587 26

* When a subsequent enquiry into rights without re-notification has been ordered and duly completed

27. The following statement shows the total areas (inclusive of those given in the last table) awaiting enquiry under Sections 4 and 28 :—

Collectorate.	Section 4.		Section 28.		Total.		Remarks
	Sq. m.	Acs.	Sq. m.	Acs.	Sq. m.	Acs.	
Thána	3	279	.....		3	279	
Khándesh	163	224	260	493	424	77	
Násik	0	147	.....		0	147	
Ahmednagar	2	114	.....		2	114	
Poona	2	53	.....		2	53	
Sátára	1	472	.....		1	472	
Sholápur	0	461	.....		0	461	
Surat	0	25	.....		0	25	
Panch Mahála	18	613	...		18	613	
Total ...	192	468	260	493	453	321	

28. The progress made during the year in the settlement of old forest areas which were gazetted under Section 34 of the Forest Act in the month of March 1879, will be seen from the following statement :—

Class of Forests.		At the commencement of the year areas under Section 24 in which private rights have not been inquired into, settled and recorded.	Areas settled during the Year.		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year areas under Section 34 in which private rights have not been inquired into, settled and recorded.	Remarks.
			Chapter II of the Forest Act.	Chapter IV of the Forest Act.				
		Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	
North Thána ...	Reserved ...	74	39	...	...	...	35	
	Protected ...	238	...	1	...	...	237	
South Thána ...	Reserved ...	99	...	...	1	...	98	
	Protected ...	329	...	...	...	6	323	
East Khándesh.	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
West Khándesh.	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
Násik	Reserved ...	...	...	...	...	...	...	
	Protected ..	...	...	...	...	...	...	
Ahmednagar ...	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
Poona	Reserved ...	9	...	...	...	...	9*	* Represents the area in Douza and Sinhgad in Haveli Range.
	Protected ...	...	...	...	...	..	...	
Sátára... ...	Reserved ...	...	...	...	...	...	..	
	Protected ...	...	...	...	..	..	...	
Sholápur ...	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
Surat	Reserved ..	678	...	...	...	...	678†	† Represents the area of the leased Dángs where demarcation is in progress.
	Protected ...	...	...	...	...	...	...	
Panch Mahals ..	Reserved ...	...	...	...	...	..	...	
	Protected ...	...	...	...	...	...	..	
Total ...		1,427	39	1	1	6	1,380	

29. The area remaining to be settled at the close of the year in the Thána Collectorate represents the forests of the Dáhánu, Umbargaon and Máhim ranges of the North Thána Division, and those of the Sháhápur and Murbád ranges of the South Thána Division, as stated last year. The area of 40 square miles settled during the year belongs to Máhim and Bassein ranges. Nine square miles, remaining to be dealt with against Poona, represent the Douza and Sinhgad areas, and 678 square miles against Surat represent the area of the leased Dángs. These areas were undergoing settlement at the close of the year.

30. The following statement will show the total forest areas over which the Forest Settlement Officer's proceedings extended during the year, in respect of any kind of settlement proceeding whether under Sections 4, 19, 28 or 34 or outside the Act:—

No.	Division.	Area.	
		Sq. m.	Acs.
1	North Thána ...	40	176
2	South Thana ...	154	169
3	East Khándesh ...	152	147
4	West Khándesh ...	149	365
5	Násik	0	64
6	Ahmednagar ...	41	628
7	Poona	11	102
8	Sátára	4	379
9	Sholapur	0	10
10	Surat	0	25
11	Panch Mahals ...	38	281
	Total ...	592	426

31. The following statement shows the areas disforested, including those which are to be subsequently "Reserved":—

Division.	Out of Section 19.	Out of Section 28.	Out of Section 34.		Total.	Remarks.
			Reserved.	Protected		
	Acres g	Acres. g.	Acres. g	Acres g.	Acres g	
North Thána	62 4	...	.....	113 28	175 32	
South Thána ..	281 16	636 2	663 9	3,972 29	5,553 16	
East Khándesh ...	1,693 0	...	1 0	22,678 0	24,372 0	
West Khándesh		...	9,874 0	7,067 0	16,941 0	
Násik	13 0	.....	...	..	13 0	
Ahmednagar	.....	..	1 15	..	1 15	
Poona	3,314 18	....	41 38		3,386 16	
Sátára	154 0	...	..	.	154 0	
Sholápur	10 0	.	.. ..	... .	10 0	
Surat ...	... .				...	
Panch Mahála	...	15,186 0	. ..	...	*15,186 0	*About ½ths of this is for reservation.
Total	5,557 38	15,822 2	10,581 22	33,831 17	65,792 39	

32. Three special Forest Settlement Officers were employed during the year in "forest demarcation" and forest settlement operations, *viz.*:—

(1) Mr. W. S. Owen, Assistant Superintendent, Revenue Survey, for the Thána Collectorate, up to the 12th January 1891, when he proceeded on sick leave for one year to Europe, giving over charge of his office and duties to the Collector of Thána, who held them up to and beyond the close of the official year.

(2) Mr. C. G. Dodgson, C. S., Assistant Collector in the Khándesh Collectorate.

(3) Mr. M. C. Gibb, C. S., for the leased Dángs up to the 7th February 1891, when he proceeded on furlough to Europe, handing over his duties to Mr. A. Lucas, C. S., Assistant Collector.

Mr. Vishnu Rámchandra Ashtikar, Mámlatdár, First Grade, on special deputation in connection with the Tánsa Lake works, was also employed, in addition to his other duties, upon the acquisition for forest reservation and the forest settlement of all the lands situated upon the catchment area of that lake.

33. In the Thána Collectorate Mr. Owen began the forest settlement of the Máhim Táluka, but after inspecting about 40 villages he allowed his enquiry to be impeded and stopped pending a decision of the question whether land notified as "Protected Forest" in 1879 can be renotified under Section 4 without being disforested in the first instance; and the map and draft report of the forest conservancy project of the Máhim Táluka were left incomplete when Mr. Owen's ill-health compelled him to hand over his office to the Collector of Thána, and proceed on sick leave, on the 12th January 1891. During the rains the forest demarcation and settlement report of the Váda Táluka, together with maps, was submitted by Mr. Owen to the Collector of Thána, who wrote a long memorandum thereupon embodying his views; these papers then came to the Conservator for opinion and report, and were forwarded by him to the Commissioner, but no order had been passed upon them up to the close of the year. After the rains some inquiries were held by Mr. Owen in the Bassein Táluka with regard to trees upon occupied survey numbers, and a little remaining forest settlement work was completed. Since Mr. Owen's departure on the 12th January forest demarcation and settlement in the Thána Collectorate has been practically at a standstill.

34. Mr. Vishnu Rámchandra Ashtikar, Special Forest Settlement Officer in respect of the lands forming the gathering ground of the Tánsa lake, effected the acquisition of 1,700 acres of occupied lands upon the catchment, by payment of Rs. 19,076; and those lands were subjected to forest settlement inquiries.

35. Under Government Resolutions Nos. 2890 and 2891 of the 4th April 1891, the forest demarcation projects in respect of the Sháhánur and Murbád Tálukas, which had been framed by Mr. Atkins, were negatived, the opinions of Forest officers having been recorded against these schemes.

36. Mr. Dodgson, C. S., who was the Khándesh Forest Settlement Officer throughout the year, demarcated Bhil settlements in the Akráni range, and completed his inspection of the Pimpalner Táluka during the hot season. During the rains he wrote and submitted to Government his reports on the protected forests of the Sávda, Chopda and Shirpur Tálukas, on the forests of the northern half of Pimpalner, and on the Bhil settlements in the Akráni and South Nawápur reserves. During the remainder of the year he inspected and reported on the forests and waste lands of the Pál, Morawal and Jinsi settlements in the Sávda Táluka, inspected the Dhulia, Nandurbár and Nawápur Tálukas, and inquired into rights in the latter. Orders of Government were passed in Resolution No. 6361 of the 8th September 1890, upon the revision demarcation scheme of the Dhulia Táluka.

37. In Násik, the work being almost completed, the additions and exclusions amounted to 51 and 13 acres only in the tálukas of Igatpuri, Peint and Nándgaon. The notification under Section 19, referred to in paragraph 29 of last year's report, was not published till after the close of the year under report.

38. In Ahmednagar, though there is no more selection work to be undertaken, there is still a certain amount of forest settlement to be completed; and with this a satisfactory amount of progress has been made by the District Deputy Collector, Mr. Venkatesh Bápuji Vádekar, who is likwise Forest Demarcation and Settlement Officer for the whole Collectorate.

39. In tha Poona District the Sinhgad and Donza project, referred to in paragraph 31 of last year's report, was sanctioned by Government in their Resolution No. 7079, dated 6th October 1890. The question of the right of the "Shetsandis" of Sinhgad has also been settled by Government Resolution No. 7957, dated 8th November 1890. The final forest settlement operations in the Sirur Táluka have also received the sanction of Government in their Resolution No. 4697, dated 7th July 1890. Enquiries were carried on in the Mával Táluka and the Ambegaon Petha, and forest registers were prepared for the Purandhar, Bhimthadi, Bárámati and Sirúr ranges. A weak point in these registers is, where no rights have been found, the leaving blank of the column intended for the record of rights where rights have been found and are admitted. In every case where there are no rights the column should contain the record "*no rights admitted*"; otherwise there is the possibility that when things have settled down, and the forest settle nent has become a tradition of the past, these columns may be found to contain all sorts of entries which may become a most embarrassing wrong to the State, and may defy refutation. Indápur is now the only táluka remaining with its finishing touches incomplete.

40. In the Sátára Collectorate the Pátan forest demarcation scheme was sanctioned under Government Resolution No. 4891, dated 15th July 1890, and accordingly Mr. Snow, C. S., the Settlement Officer, made enquiries towards the acquisition of certain occupied lands which are included within the project devised by him for this and the Válva Táluka also. Forest registers for both these tálukas were prepared, but rapid progress is not to be expected in the completion of the forest demarcation and settlement arrangements, because the pressure of revenue and magisterial work is great, and leaves the Assistant Collector, who is in charge of a sub-division of the district, with very little time to devote to other duties of a special nature. Inámdárs' rights were enquired into and admitted in Khadki, Pachwad, Udtáré and Chindoli, all of Táluka Wái, and in Kaloli of Táluka Jávli.

41. In Sholápur little remains to be done, but small areas of occupied land were obtained during the year by Mr Bháskarráo Ránchandra Heblikar, who is District Deputy Collector in revenue charge of certain tálukas as well as Forest Settlement Officer for the whole Collectorate.

42. In the leased Dángs Mr. M. C. Gibb was appointed special Forest Settlement Officer by Government Resolution No. 181, dated 10th January 1890, and his duties were defined by Government Resolution No. 1288, dated 18th February 1890, whereby his work was limited to selection and demarcation without enquiry into rights, as it was held that the Forest Act did not apply to the leased Dángs. A report was submitted by Mr. Gibb on the provisional demarca-

tion of three of the Dáng States, whereon issued Government Resolution No. 7906, dated 7th November 1890, setting forth in detail the course to be followed. Mr. Lucas has succeeded Mr. Gibb from 7th February last.

43. In the rest of the Surat Division a few acres were settled in the Bulsár and Mándvi Tálukas by the District Deputy Collector Mr. Umedrám Ranchordás, who is Forest Settlement Officer for the Collectorate.

44. In the Panch Mahális the reports on the Godhrá and Hálol Tálukás referred to in paragraph 35 of last year's report, were disposed of by Government Resolutions Nos. 1129, dated 12th February 1891, and 6051, dated 25th August 1890. Though the sanctioned conversion of certain protected areas into reserved could not be completed within the year, the work in this division is approaching completion.

45. The orders of Government passed on the subject of Forest Settlement during the year were the following :

(1) Thána Collectorate--
G. R. No. 2890, dated 28th April 1890.
„ No. 2891, „ „
„ No. 5426, dated 4th August 1890.

(2) Khándesh Collectorate -
G. R. No. 2422, dated 3rd April 1890.
„ No. 5019 „ 18th July 1890.
„ No. 6361 „ 8th September 1890.
„ No. 7849 „ 4th November 1890.

(3) Poona Collectorate—
G. R. No. 2611, dated 15th April 1890.
„ No. 4697 „ 7th July 1890.
„ No. 7079 „ 6th October 1890.
„ No. 7957 „ 8th November 1890.

(4) Sátára Collectorate—
G. R. No. 4891, dated 15th July 1890.

(5) Surat Collectorate—
G. R. No. 181, dated 10th January 1890.
„ No. 1288 „ 18th February 1890.
„ No. 7906 „ 7th November 1890.

(6) Panch Mahális—
G. R. No. 6051, dated 25th August 1890.
„ No. 506 „ 21st January 1891.
„ No. 1066 „ 10th February 1891.
„ No. 1129 „ 12th „ „

46. The following statement shows the cost of Forest Settlement Officers and their establishments for the several divisions :--

Division.	Forest Settlement Officers.		Office Establishments.		Contingencies.	Total.
	Pay.	Travelling Allowance.	Pay.	Travelling Allowance.		
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
North Thána ...	5,785 5 0	1,575 0 0	1,562 5 0	421 7 9	158 4 0	9,502 5 9
South Thána ...						
East Khándesh ..	8,653 13 0	2,100 0 0	3,968 5 10	1,035 7 8	503 1 7	16,260 12 1
West Khándesh ..						
Ahmednagar ...	.	....	715 0 0	305 4 0	295 11 0	1,315 15 0
Poona	...	. ....	1,151 9 5	411 13 8	280 2 0	1,853 9 1
Sátára...	....	.. .	500 0 0	221 8 0	98 10 9	820 2 9
Panch Mahális ...	... .	... ..	..	....	45 9 0	45 9 0
Total ...	14,439 2 0	3,675 0 0	7,907 4 3	2,395 9 1	1,381 6 4	29,798 5 8

47. In paragraph 3 of the Government of India's review No. 726-F., dated 23rd June 1891, of the Forest Administration Report of the Bombay Presidency, it is stated that the forest areas finally reserved should be debited with the total cost of settlement operations up to date *less* the cost of settlements in progress, and that the general average per square mile which results should be

distributed amongst the reserves already gazetted. As far as possible the capital spent on the settlement of the reserves should be shown under the following main heads:—

A.—Pay and allowances of officers.

B.— Compensation.

C.— Miscellaneous expenditure.

48. It is of course possible to give the amounts coming under the two last heads, but the difficulty of assigning the proportion of pay and allowances of the officers concerned in forest settlement operations to any particular forest reserve and even to the latest forest area finally reserved in the district of which the forest settlement is completed, so that the figures charged shall represent accurately the cost of the forest settlement in pay and allowances, is insurmountable; hypothetical figures can undoubtedly be given.

49. Forest Settlement Officers spend much of their time on work which has no kind of relevancy to reserved forests or to forest reserves: for instance, a Forest Settlement Officer spends a portion of his day's work for some months in making inquiries into the "forest rights" of the inámdárs in his district, the rights may be admitted in favour of the inámdár or in favour of Government in some, if not, in all, of the inám villages or inám holdings; in any case it would be impossible to say that a particular reserved forest or the forest reserves of the district had benefited by the Forest Settlement Officer's labour, so that they might be charged with his pay and allowances while thus employed. It would be most unfair to charge the cost of them to the forest areas at all, more especially when the forest rights of the inámdár are admitted in his favour, for he is then the only person who advantages directly from the work; the general revenue administration of the country may advantage also to the extent of the settlement of an unsettled question: this work, however, would never have become necessary in the present day had it been performed years ago when inámdárs' claims and rights were undergoing special inquiry and settlement by specially appointed officers, but unfortunately in that bye-gone age the value of forests and of timber, &c., was not appreciated to the extent their importance demands, and is now recognized.

50. There have been many orders on the subject of teak trees upon occupied lands; these trees have been recognized to be the property of the State since the acquisition of the country, and Forest Settlement Officers have to spend a portion of their time inquiring into claims advanced by villagers and other survey occupants to the teak trees upon their holdings; whether the decision of the Forest Settlement Officer be in favour of Government or of the survey tenant, no reserved forest, nor forest reserve, can be said to be benefited by the time and labour given by the Forest Settlement Officer to this inquiry. The teak trees upon occupied lands, all over the face of nature at large, represent without doubt a very valuable property in timber, but they do not constitute a reserved forest nor a forest reserve when they are outside the limits of the forest areas of the district; what really benefits is again the general administration of the country, through the amendment of its former omissions.

51. The Forest Settlement Officer has likewise in the detail of his work in a rayatwári presidency to devote time and attention to the inspection of royalty trees and other timber, including teak trees belonging to Government, with a view to their valuation for sale, upon occupied lands, that will never be, nor will ever be proposed to be, forest reserve; for they are outside the forest boundaries as projected and sanctioned. No reserved forest benefits directly by this work; these outside trees represent a property of an evanescent however valuable nature, which will, in the course of a few years, have disappeared entirely. No forest reserve, nor the total forest area of the district, could fairly be charged with the pay and allowances of the Forest Settlement Officer, when undertaking such useful service in the interests of general administration.

52. If then we come to examine in detail the work of a Forest Settlement Officer, we find that so much of it as really concerns inquiry into and determina-

tion of the existence, nature and extent of any rights alleged to exist in favour of any person in or over any land comprised within the limits of any forest or waste land which is the property of Government, or over which the Government has proprietary rights, or to the whole or any part of the produce of which the Government is entitled, and which forest land or waste land has been provisionally notified under Section 4 of the Forest Act, as proposed reserved forest, could be performed within a very small fractional part of the period of the entertainment of the Forest Settlement Officer and of his establishment.

53. The Government of India in their review already quoted further remark:

"It is obviously of importance that the amount expended on the constitution of each forest reserve, including the cost of its settlement, demarcation and survey and of the permanent roads and buildings constructed in it should be treated as capital invested in the forest; leaving the amount spent on temporary works for the extraction of produce, on the making of inspection paths, on the erection of temporary buildings, on cultural operations or protection from fire, and on working plans, together with all other annually or periodically recurring expenditure, to be balanced against the revenue."

54. Seeing how various are the duties of a Forest Settlement Officer in this Presidency, and that only the odd moments of his leisure while not engaged upon revenue work and magisterial duties may be devoted to so-called forest settlement operations, and in consequence how impossible it is to determine the correct share of his cost to be charged against any particular forest reserve or against the total forest areas of the district in which he is employed, it may be fairly urged that the item, Pay and allowances of officers, should be considered as current expenditure chargeable against revenue instead of making it capital invested in forest which it has just been shown to a great extent not to be. A strong argument in favour of such adjustment is to be found in the fact that the forests of Western India, a country of fixed seasons with a long continuance of drought and a very short period of heavy rain, in their character of natural reservoirs, work very strongly in maintaining and augmenting the land revenue of the country; for so long as the high lands, water-sheds and drainage slopes are protected under efficient forest conservancy, agriculture upon the plains cannot but be profitable, and the direct and very considerable and constant help thus given in increasing the general prosperity of the country may be taken as a set-off against, as more than recompensing, the cost of forest settlements, and even of the organization and constitution of forest reserves.

3.—FOREST BOUNDARIES.

55. The work of demarcation, by the erection of forest boundary marks, was carried on vigorously in the several divisions of the Northern Circle in accordance with the standing orders on the subject, which have already been stated in full in the Forest Administration Reports of the Northern Circle for the years 1886-87 and 1888-89, paragraphs 31 and 47, respectively; and the following statement exhibits the details of such works:—

Division	Length of boundaries in miles	Number of Cairns erected.			Cost		
		Large.	Small.	Total.			
					Rs.	a.	p.
North Thána	17	244	..	244	133	15	0
South Thána	49	189	741	930	317	14	6
East Khándesh	143	1	293	294	294	14	5
West Khándesh	550	796	2,656	3,452	1,918	5	2
Násik	296	2,021	3,596	5,617	2,803	5	9
Ahmednagar	139	1,563	260	1,823	949	10	3
Poona	232	582	3,843	4,425	1,237	11	0
Sátára	67	104	1,140	1,244	419	6	11
Sholápur	79	333	380	713	227	14	6
Surat	...	...	...	...	...	..	
Panch Mahálls	110	160	1,774	1,934	682	14	0
Total ...	1,682	5,998	14,683	20,676	8,935	15	6

56. The demarcation of forest boundaries upon the ground can only be undertaken by means of the village maps of the Revenue Survey Department, and it sometimes happens that a traditional boundary which has been protected up to for years is upset under the proceedings of the revision survey, for the reason that the boundaries of survey numbers on the hill-sides were very imperfectly defined at the time of the old revenue survey, boundary-marks being placed at long distances apart, and quite invisible one from the other. In this way where a ridge, or the base contour line of a hill, or a winding and crooked ravine or nálá, has been the traditional boundary, having boundary-marks at the two ends, a mile or two apart, and has given an admirable natural boundary, the old map shows this boundary line by a straight line drawn from one boundary-mark to the other; and consequently in laying down a detailed demarcation by special forest boundary-marks erected at visible distances one from the other, straight lines giving unnatural boundaries have to be adopted.

4.—PRIVILEGES CONCEDED TO VILLAGERS.

57. The alterations in the Code of privileges for the Khándesh Collectorate, proposed by a committee of local Revenue and Forest officers, presided over by the Collector, and referred to in paragraph 43 of last year's report, were sanctioned by Government in their Resolution No. 5019, dated 18th July 1890, save in so far as they refer to the fee to be imposed for grazing on sheep, and to the reduction in the fees for cutting bamboos. These changes especially benefited the forests of West Khándesh Division, as all the forests of the Nizámpur range and of the Pimpalner range except the Umbarpata reserve, and of the Nandurbár range except the Devmogra reserve, were transferred to the South Tápti rules. It will now be illegal, in these areas, to cut a live tree of any kind without the permission of the Divisional Forest Officer; whereas formerly every species, but 20, were at the mercy of the Bhils. In the North Tápti ranges two more trees were added to the twenty reserved kinds. The Divisional Forest Officer of West Khándesh has again recorded that "the privileges given to the people are inconsistent with the maintenance of proper conservancy, for the simple reason that the people will not take advantage of a privilege without abusing it. If allowed to cut live wood, they lop the tree or hack it over three feet from the ground. If privileged to take mowra flowers, they set the forests on fire. If permitted to take honey, they either cut out a large piece of the stem of the tree, in which it is, to procure it, or cut it down and leave the wood to rot. All this cannot be checked by a protective establishment numbering one against a thousand and more privileged persons."

58. The Divisional Forest Officer, West Khándesh, notes likewise that although the exercise of certain privileges was suspended temporarily by order of Government for the reason that forest fires had been very prevalent and extensive in the forests in respect of which the privileges had been permitted, the effect had not been satisfactory, for fires had continued to rage rather worse, if anything, this season than last, for "the restriction of the cutting of wood and bamboos was so worded that there was no real punishment except in respect of wood and bamboos taken for household consumption, and as the sources of supply outside the forest boundaries were so rich as to be able to supply all the domestic needs of the people, the suspension of the privileges in the forests themselves was not felt." Mr Fagan recommends that the cultivators of forest villages should be required to pay grazing fees on their cattle entered into the forests to graze, and the Bhils and other wild tribes who are in the privilege list should be required to pay double the ordinary fee on the timber they cut and take from the forests for sale when forests are burnt wholesale, and the forest villagers and the favoured classes to whom privileges have been conceded in the forests do not protect these forests against fire.

59. In the Thána Collectorate a concession of considerable magnitude was made to the forest villagers generally, by allowing them to remove gratis all branchwood less than 6″ in girth of the felled trees and to cut and take all shrubs and undergrowth such as brushwood, &c., for use as ráb or firewood, from the coupes under exploitation by purchasers or contractors; but the latter complain bitterly of the facility with which villagers annex larger material under cover of this privilege, and of their lawless and violent conduct in appropriating

wood which does not belong to them. This concession has undoubtedly a depreciating effect upon the price offered for coupes in the market.

60. In the matter of forest privileges there is a decided tendency to forget that the world is going round, and that the age is constantly improving so that privileges which were considered to be fitting a dozen years ago have become out of date, having been improved out, and their continuance is consequently as harmful as unsuitable. In a coalless country and where manure is largely used in agriculture, and no over-abundant supply of it is to be obtained, the demand upon the products of forests is always increasing, and it is absolutely necessary to whittle down privileges directly they commence to threaten the maintenance of forests, which they are doing in parts of the Northern Circle.

61. In no other division of the Northern Circle was any change made in the privileges already conceded by Government in favour of local population, except the concession of free grazing to all "agricultural" cattle and "milch" cattle, without limit of number, of villages that have contributed "Gáirán" to the formation of a forest block under the orders of Government contained in their Resolution No. 3595, dated 23rd May 1890, or more properly speaking under the grazing rules promulgated under that Resolution. Hitherto these cattle have only been permitted to graze in the gáirán itself, but now all forest open to grazing is free to them, where their gáirán has been included in forest. This concession is to a small extent counter-balanced by the fact that whereas all local cattle used to graze free in the "gáirán", it is only "agricultural" and "milch" cattle that will henceforward enjoy the privilege. The rules have only been very partially applied as yet. It is hoped that next year will see the rules in better working order. Grazing in forests when properly regulated is capable of returning a very large revenue, and at the same time of doing much good to agriculture and to cattle-breeding; but the concession of free grazing to agricultural and village milch-cattle, if applied blindly, will in some cases do great harm to forestry and also to grazing interests; for example, when a large and populous village has contributed a small area of old gáirán to forests, and claims right of entry for hundreds of cattle which may overrun the whole block, doing damage and impeding the conservancy of the whole block. Such villages require exceptional treatment.

62. The expenditure incurred upon the formation and constitution of reserved and protected forests during the year has amounted to Rs. 61,759-3-8, distributed thus:—

	Rs.	a.	p.
(1) Salaries and travelling allowances of Forest Settlement Officers not charged to Forests... ...	18,114	2	0
(2) Salaries and travelling allowances of establishment employed under Forest Settlement Officers and charged in the forest accounts, and the contingent expenditure of the latter	11,684	3	8
(3) Demarcation of forest boundaries upon the ground by the construction of special forest boundary marks	8,935	15	6
(4) Compensation for land and rights	23,024	14	6
Total ...	61,759	3	8

63. The work actually effected during the year and represented by the expenditure detailed above comprises —

(*a*) the settlement of 593 square miles at a cost of Rs. 19·7 per square mile;

(*b*) the demarcation of 1,682 miles of forest boundary at Rs. 5·3 per mile and

(*c*) the purchase of 2,490 acres of land for forests at Rs. 9·2 per acre.

CHAPTER II.

SURVEYS AND WORKING PLANS.

A—SURVEYS.

64. A portion of Topographical Survey Party of the Government of India, which has been deputed to this Presidency for forest surveys, under the superintendence of Colonel Pullan, B.S.C., working under the joint direction and supervision of the Survey and Settlement Commissioner, Bombay, and the Surveyor-General of India, has been employed throughout the year in the Northern Circle in the Collectorates of Thána, Poona and Ahmednagar. The nature and extent of the work performed will be seen from the following statements:—

Statement showing the Cost and Amount of Work done by No. 17 Party (Bombay Forests) in the Northern Circle during the Survey year ending 30th September 1890.

District.	Táluka.	Triangulation and Traverse in advance.			Topographical Survey in square miles.								Total cost.	Remarks.
		Triangulation in square miles.	Traverse in Linear miles.	Cost.	16″	Cost.	8″	Cost.	4″	Cost.				
				Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.			Rs. a. p.	
Poona	Khed	20	98	116 0 6	0·40	330 4 0	35·00	6,087 9 5	51·34	3,837 9 10			10,371 7 9	
	Mával	..	..	....	..	....	..	....	F.M.*	1,851 13 3			1,851 13 3	* Fair mapping.
	Bhimthadi	..	..	....	15·53	2,456 15 9	..	....	..	....			2,456 15 9	
	Sirur	..	..	....	2·53	656 5 0	..	....	..	....			656 5 0	
Ahmednagar	Shrigonda	..	..	....	0·52	82 6 4	..	....	..	....			82 6 4	
South Thána.	Karjat	..	..	....	..	....	14·82	4,048 12 9	..	....			4,048 12 9	
	Kalyán	..	72·15	1,254 2 9	..	....	35·19	5,326 0 1	..	....			6,580 2 10	
	Bhiwndi	46	135·54	2,761 1 0	..	....	13·55	1,676 10 8	..	....			4,437 11 8	
North Thána.	Bassein	50	95·47	1,963 10 2	..	....	..	....	..	....			1,963 10 2	
	Sálsette	..	14·90	964 9 0	..	....	..	....	..	....			964 9 0	
	Total	116	414·06	6,159 7 6	18·98	3,524 15 1	98·56	17,139 6 11	51·34	5,689 7 1			32,512 14 6	
Rate per square mile of Topography for each scale		..		..		185 10 8	..	173 14 4	..	†110 12 1			....	†Inclusive of arrears of mapping.

Statement showing the Amount and Cost of Work done by No. 2 Camp of No 17 Party (Bombay Forests) in the Northern Circle during Survey year ending 30th September 1891.

District.	Scale.	Triangulation.			Traversing.			Detail.			General cost per square mile.	Remarks.
		Area in square miles.	Total cost.	Cost per square mile.	Area in square miles.	Total cost.	Cost per square mile.	Area in square miles.	Total cost.	Cost per square mile.		
			Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.	Rs. a. p.	
Poona	4″	170	353 15 5	2 1 4	16	368 14 11	23 0 11	124·35	10,852 9 10	87 4 5	112 6 8	Táluka Khed only.
Thána	8″	..	..	..	39	946 1 6	24 4 2	52·86	7,576 0 8	143 5 2	....	Táluka Khed.
	..	..	..	..	45	1,091 9 0		39·70	5,690 14 6		....	Traversing is in advance in the Vada Táluka and the detail survey belongs to the Bhiwndi Táluka.
Poona	16″	..	..	..	..	....	..	22	4,255 5 3	..	193 6 9	Haveli, Bhimthadi and Sirur Tálukas.
Total	..	..	353 15 5	..	..	2,406 9 5	..	..	28,374 14 3	..	*31,135 7 1	*Is the total cost of the Northern Circle.

Statement exhibiting the Forest Survey Work undertaken in the Northern Circle during the official year 1890-91.

District.	Táluka.	Triangulation.		Traversing.		Topographical Survey.						Total Cost.
						16″.		8″.		4″.		
		Amount in square miles.	Cost.	Amount in linear miles.	Cost.	Amount in square miles.	Cost.	Amount in square miles.	Cost.	Amount in square miles.	Cost.	
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.	Rs. a. p.
Poona	Haveli	...	.....	...	.....	2·8	533 5 4	...	.....	...	.....	533 5 4
	Bhimthadi	...	.....	...	.....	14·2	2,921 5 6	...	.....	...	.....	2,921 5 6
	Sirur	...	.....	...	.....	5·0	1,066 10 8	...	.....	...	.....	1,066 10 8
	Khed	70	587 11 7	82	492 4 5	...	.....	53·49	6,889 7 4	...	.....	7,969 7 4
South Thána	Kalyán	9	256 4 7	53	127 9 4	...	.....	24·23	4,529 1 6	...	.....	4,912 15 5
	Bhiwndi	9	255 4 8	53	127 9 4	...	.....	12·28	2,273 9 11	...	.....	2,656 7 11
Poona	Khed	70	588 11 7	82	392 4 6	...	.....	...	.....	98	9,586 11 2	10,567 11 3
	Mával	...	.....	...	.....	...	.....	...	.....	F. M.	1,557 15 3	1,557 15 3
	Total	158	1,688 0 5	270	1,139 11 7	22·0	4,521 5 6	90·00	13,692 2 9	98	11,144 10 5	32,185 14 8

65. Under Government Resolution No. 4515 of the 3rd July 1891, it was directed that in accordance with the instructions contained in letter from the Government of India, Revenue and Agricultural Departments (Forests), No. 15-F., dated 6th June 1891, the survey year ending 30th September, and not the financial year ending 31st March, shall be adopted in future in annual forest administration reports for the purpose of instituting comparisons in regard to the expenditure incurred on forest surveys, and in reporting generally upon the operations of the forest survey parties.

66. Colonel Pullan was absent on privilege leave during November, but rejoined on the 11th December and served up to the 13th March 1891, when he left on retirement from the service, and handed over charge of the party to Mr. Lawson, who retained it through the rest of the field season, and transferred it to Colonel Hutchinson, the newly appointed Superintendent of No. 17 Party, on coming into recess.

67. Mr. S. F. Norman had charge of the operations in the Northern Circle under the Superintendent, and accomplished, *during the survey year*, 124 square miles on the 4-inch scale in the Khed Táluka of the Poona District, besides 92·56 square miles of 8-inch work in the Khed and Bhiwndi Tálukás of the Poona and Thána Districts, respectively, and 22 square miles of 16-inch survey of bábul reserves in the Bhimthadi, Sirúr and Haveli Tálukás of the Poona District. In connection with these areas 170 square miles of triangulation was completed, fixing 179 points, and 235·9 linear miles of theodolite traverse survey was run, fixing 1,223 points; the heights of all these stations were approximately obtained, and very materially assisted the faithful contouring of the ground: the mathematical results of all this work proved very satisfactory.

68. The total cost of the party during the year amounted to Rs. 66,274-0-3, of which Rs. 31,135-7-1 are to be charged against the Northern, and Rs. 35,138-9-2 against the Southern, Circle. It is stated by the Superintendent, Forest Surveys, that the mileage rate attained for the 8-inches work in the Southern Circle was Rs. 112, whilst in the Northern Circle the 4-inches work cost Rs. 112-6-8 and the 8-inches work cost Rs. 167-9-4, and the 16-inches, Rs. 193-6-9, and the explanation given for this great difference is "the mileage rate obtained in the Southern Circle is unusually low and has resulted from every sub-surveyor yielding large outturns of work." The rates in the "Northern Circle are not high; the work is scattered, the ground hilly, the detail intricate and the scales varied. It does not therefore admit of comparison with that done in the Southern Circle."

69. Advance work in the Northern Circle consisted of 97 square miles of ground prepared in the Váda Táluka of the Thána District.

70. The mapping work undertaken in the Northern Circle is reported to have been exceedingly heavy in consequence of arrears from former seasons; to complete which 22 field sections in the Násik District on the scale of 4 inches equal to one mile, surveyed in 1888-89, 28 field sections in the Poona District on the scale of 4 inches equal to one mile, surveyed in the season 1889-90, and 34 field sections surveyed in the season 1889-90 in the Thána District, on the scale of 8 inches to one mile, have been drawn, and typed, and prepared for publication, in original.

71. Of current work, 42 field sections in the Poona District on the scale of 8 inches to one mile, surveyed during the season 1889-90, and 36 field sections, surveyed in 1890-91 in the Thána District, on the scale of 8 inches equal to one mile, and 37 sections of river-side reserved forests in the Poona District, surveyed in the season 1890-91 on the scale of 16 inches equal to one mile, as well as 20 sections on the scale of 4 inches equal to one mile have been drawn, and typed, and prepared for publication.

72. The work in the Northern Circle was tested by 113 linear miles of chain work in addition to *in situ* examination; every section of the work coming under careful review. The 16-inch bábul reserve work was tested by Mr. Lawson, an average of one mile per section or about 37 miles for the whole 22 square miles of area surveyed.

73. The health of the Forest Survey establishments employed in the Northern Circle has been fair throughout.

74. Messrs. Lawson and S. F. Norman who have directed operations in the Northern Circle have done excellent work; and the Superintendent in his

report mentions the names of the following subordinates,—Govind Gopál, Hari Rámchandra, Moro Tukárám, Gopál Vishnu and N. R. Patwardhan,—as deserving of encouragement. All these men belong apparently to the Bombay Presidency.

75. Colonel Pullan's retirement from the service was a great loss to the forest survey of Western India, as he had organized the establishments and had started the work in this Presidency, in which he naturally took great interest. The maps of forest blocks and areas which the Survey Branch has supplied to this department afford evidence of skill, accuracy and care, and are of the highest service in the preparation of working plans for the cultivation of timber, fire-wood and other forest produce, and also for arranging pasturage within forests on a system of rotation with closure.

76. The Conservator is glad to be able to record that the preferential value of forest maps upon a large scale, not smaller than 8 inches to the mile, over small scale maps, is, after personal test of their respective values, acknowledged now by the few Forest officers in the Northern Circle, who were orignally doubtful as to whether the superior usefulness of the larger maps would justify their greater cost. There is a concensus of opinion that for working plans founded upon area, which after all is the simplest, safest and best system, forest maps on a scale of 4 inches to the mile afford no reliable assistance, and may cause error and confusion. Forest maps upon a sufficiently large scale to illustrate all the topographical details of the country, and to show the position of every forest boundary-mark, so that encroachments upon the forest boundaries may be detected and proved by aid of the map, must be provided sooner or later; and it is in the circumstances of doubtful economy to shirk the greater expenditure for the really useful map and to incur a smaller outlay upon a small scale map, which cannot meet all the requirements of the case, but is put forward for a few years to occupy, but not to fill, the vacuum which is bound to be filled up by a proper map before long, say, in a dozen years hence.

B.—WORKING PLANS.

77. The opearation of the Working Plans branch were practically confined to the two Thána divisions during the year. The work was conducted on the lines explained in former reports. The following is the progress statement of work performed during 1890-91 :—

Range.	Total Area.	Number of Blocks, per Range.	Number of Sub-blocks, laid out.	Number of Compartments laid out in 1890-91.	Average Area of a normal Compartment.	Remarks.
North Thána Division.	Acres.				Acres.	
Máhim	81,843	41	13	38	49	Unsettled táluka; only few coast blocks done.
Bassein	51,230	23	23	24	55	First series complete; settled táluka.
Sálsette	14,441	10	...	4	36	Settled táluka.
Váda	80,568	34	...	14	59	Unsettled táluka.
Dáhánu	107,351	45	...	19	59	Do. do.
Umbargaon ...	23,008	12	...	6	47	Do. do.
Total ...	358,441	165	36	105	54	
South Thána Division.						
Kalyán	32,178	16	...	15	50	Settled.
Murbád	71,712	20	...	22	89	Unsettled.
Karjat and Khálápur ...	52,336	19	...	19	69	Settled.
Bhiwndi	39,600	20	20	16	49	Do.
Mokháda	48,630	16	...	19	76	Do.
Khardi and Sháhápur ...	1,49,366	52	...	18	71	Unsettled.
Total ...	393,822	143	20	109	69	
Grand Total ...	752,263	308	56	214	61	
Total, 1889-90 ...	731,237	303	22	349	60	

78. The Working Plans Office was in charge of Mr. T. B. Fry from April 1st to May 29th; of Mr. R. C. Wroughton from May 30th to June 19th; of Mr. F. Gleadow from June 20th to September 4th; of Mr. R. C. Wroughton again from September 5th to September 29th; and finally of Mr. T. B. Fry till the end of the year.

79. Some of the areas are taken from survey records, others by scaling from the topographical sheets, which are much more satisfactory, though even they are not free from occasional errors.

80. The total number of forest blocks differentiated in the Thána District is 308; but 8 of these were not brought under regular working, 4 of them in the Bhiwndi Range being situated upon the Tánsa duct line, and 2 in the Sháhápur Range being adjacent to the Tánsa dam works, while the remaining 2 in the same range have not had their boundaries finally determined. On the 1st April 1890 seventeen compartments remained to be marked out to complete the full complement of coupes for exploitation during the working season—15th August 1890 to 31st May 1891; these were laid out before the commencement of the rains.

81. The following statement shows the cost of demarcating compartments during the year to become coupes of the following season:—

Name of Range.	Number of Compartment.	Defined by		Aggregate Area of Compartment.	Cost.	Average Cost per Compartment.	Average Cost per Acre.	Remarks.
		Cairns.	Stones.	Acres.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Máhim	38	103	3,176	1,840	141 2 0	3 11 6	0 1 4	Number of cairns, &c., shown in the column 3 are those erected during the season only; in most cases one side of a compartment coincides with one of a former coupe.
Sháhápur and Khardi	17	52	1,541	1,002	65 13 0	3 13 9	0 1 1	
Karjat and Khálápur	18	41	1,295	797	78 14 0	4 1 9	0 1 6	
Mokháda	19	69	1,258	1,129	82 12 9	4 5 9	0 1 2	
Bassein*	24	5	1,729	1,195	44 6 9	1 13 6	0 0 7	
Dáhánu	21	99	1,921	1,180	89 12 9	4 4 6	0 1 2	
Sálsette	4	9	192	122	13 5 0	3 5 3	0 1 4	
Váda	14	73	1,160	881	73 13 3	5 4 3	0 1 4	
Murbád	22	71	1,665	1,054	108 3 0	4 14 9	0 1 8	
Umbargaon	6	18	496	281	24 9 0	4 1 6	0 1 5	
Bhiwndi*	16	5	1,083	759	40 5 6	2 8 3	0 0 10	
Kalyán	15	39	1,000	681	50 9 9	3 5 9	0 1 2	
Total	214	588	16,516	10,911	803 10 9	3 12 5	0 1 2	* Corner cairns erected previously.

82. Although the Working Plans operations were confined, practically, to the Thána divisions, still a portion of the establishment was employed for a time in the Poona division, testing the areas of compartments, felled in the bábul blocks and in determining the areas over which teak fellings had extended during the past 20 years in the Khed Range.

83. The Government of India in their review of the forest administration of the past year have remarked that the preparation of the working-plans in the Northern Circle, meaning the Thána divisions, has apparently, without exception, been based on area without any forecast in regard to the yield of material. This no doubt to a certain extent describes what has taken place, but it overlooks the fact that when a compartment is prepared to become a coupe in the first place, the trees within it which are to be reserved, and not to be felled, are selected, are marked with a reserve mark and a serial number, and are entered in a register; and in the second place an estimate of the yield and value of all the remaining growth is made. The utility of a forecast in regard to the yield of material is fully recognized for such purposes as the framing of budget estimates, for determination of the quantity of material to be placed in the market, &c., but that such forecasts are an absolute necessity, in order to comply with the requirements of forestry in the Thána District, may be questioned.

84. When the working-plans were first started in the Thána District, in the Bassein Táluka, an enumeration of trees upon test plots, and a valuation survey also, was undertaken in order to arrive at a knowledge of the crop upon the ground, and a forecast of the yield. But it was soon found that, estimates based upon the data furnished by test plots, would be very inaccurate and misleading, and that unless all the trees in the forests were to be counted, which would be a work of years, any enumeration would be worthless for practical use, whatever theory might urge on the point; and it was seen that, to undertake an enumeration

of the trees would be an useless work and a waste of money; and accordingly the idea was discarded.

85. There is a proposition that the Forest Settlement Officer and his Assistant should take stock of the trees in the forests of the Thána District covering 1,367 square miles, by means of counting the trees on a few test areas. Any estimate made upon such data, even though the trees upon a fractional part of the forest area of each of the 1,300 forest villages which have contributed forest lands to form the forest area of the Thána District were to be counted, will be wild, and will not assist the working-plans in any way. But it will cost money, for it will take much time to measure and mark off the enumeration areas and to count the trees standing upon them.

86. The Government of India further remark that, though area is obviously the safest basis for continuous and systematic forest management, and must always serve as the main foundation of every working-plan, it is desirable to supplement the mere sub-division of the area by the calculation of the possible yield. The system of working the forests in the Thána District, which may be described as coppice under standards, is due to the force of circumstances; and is the only available system where—

(*a*) the privilege of taking branch wood for service of ráb and firewood have been conceded to the forest villagers, with the proviso that no felling shall be at a greater distance than of four miles from a forest villager's field and as large quantities as possible of these materials have to be furnished;

(*b*) the forests have been so hacked about and illtreated that there is no uniformity of growth; different patches vary and differ one from the other; gnarled, misshapen, ill-grown trees of all ages and kinds and sizes intermingle; density and sparseness are very unequal, even upon the forest lands of a single village; so that the forests are not in a fit state to be worked, at the present time, as "high forest"; and that a process of transformation must be brought about by artificial means;

(*c*) there is a trade demand, not only in view of the satisfaction of local supply, for small timber;

(*d*) the desirability of selling the timber on foot for the purchasers to fell and remove is an important consideration.

87. The necessity for small-sized working circles has been admitted, and seeing that there are 308 working circles in the Thána District, implying 308 coupes under exploitation yearly, of an average normal area of 61 acres each, it will be understood that the value of obtaining any accurate estimate of the possible yield, for any other reason than upon which to base a calculation of probable revenue, is not worth the expense. Where there are so many coupes they work against each other, and by a process of give and take establish a fairly even average outturn, or a normal annual production for the whole district. Of course, as trees grow up and increase in diameter, and as the growth becomes more dense in the compartments yet to become coupes, the annual yield becomes progressively larger, other conditions being equal, and protection against illicit exploitations of trees, and against damage by privilege-holders being efficient as years gather upon the revolution.

88. Some attempt has however been made to have the yield of each coupe recorded, although the results have not been so satisfactory as might be desired. The purchasers of the several coupes are empowered, and are bound down in their agreements, to sign and issue passes under the rules of Section 41 of the Forest Act, to cover all the material removed from the coupe; each load has to be protected by its separate pass, which is required to specify, in a column prescribed for the purpose, the quantity and description of timber or other forest produce removed under the pass. The counterfoil or office copy of each pass in the bound book of passes is kept by the agent of the purchaser, specially appointed for the sole purpose of issuing passes, and is handed over to the Divisional Forest Officer as soon as all the blank passes in the book have been used, and with the data thus supplied a rough calculation of the yield can be arrived at.

89. It would of course be preferable to keep a more detailed and accurate record of the exploited material, to check the prices received for the standing crop of timber by the yield, to obtain an accurate knowledge of the timber property and of its productiveness in view to the future development of the working-plans, and also that posterity may decide whether our stewardship has been wise and sound: but to do this would cost money and at the same time it would require a considerable staff of professionally educated subordinates, which at present is not to be found in the Forest Department of this Presidency. But proposals have been framed and submitted by Committee after Committee, of very representative and capable officers, to supply the Forest Department not only with a sufficiently strong establishment of forest guards for the efficient protection of the forests, which after all is the keystone of every working-plan of a forest, but also with a better class of higher subordinates, professionally trained, so that there may be a sufficient number of well paid indigenous officers to perform executive duties, and also work of purely technical character dependent upon the possession of professional knowledge. The attainment of this very necessary development of the Forest Department would seem to be very far off still, although Government have, in paragraph 4 of their Resolution No. 3832 of the 6th July 1889, remarked: "The weak link in the chain at present is the upper ranks of the executive staff. There are not enough or well enough paid indigenous officers to look after subordinates and carry out departmental details."

90. Experience derived from the annual sales of a large number of coupes to contractors and purchasers has given the foundation for a fair estimate of the selling value of timber on foot in the coupes of the Thána District, so that an acreage rate can be obtained for purpose of budget estimates.

91. The degree of fellings determines to a great extent the system of working, and hereafter, should conditions permit the measure, it will be possible to form large forest blocks in the Thána District by uniting together several of the existing small ones, and to treat the forests under a high timber system, by decreasing the intensity of the fellings very considerably, and working the axe only to pick out such trees as require to be removed; at the same time giving particular care to the preservation of the canopy overhead, although it is doubtful that a larger revenue will be obtainable by the change in the system of working within the next fifty years.

92. A set of rules has been drawn up for guidance in the selection of the trees to be reserved in a coupe; and the character of the working depends upon the intelligence with which these rules are applied, and the selection of standards is made. The rules are as follows:—

(A).—Quality of Standard.

1*st*.—Trees to be marked in reserve should, if possible, not be less than 18 inches girth at breast-height; but may be of any greater size provided they are healthy and likely to live through the rotation.

2*nd*.—Seedling trees are to be preferred as standards; otherwise coppice shoots from a small stool, straight clean-stemmed, and with a strong leader should be chosen. If really promising young trees cannot be found, then the healthiest trees, those most likely to produce good seed, must be marked.

3*rd*.—As much as possible trees of various kinds should be reserved, but the most valuable kinds should be preferred.

4*th*.—If the existing crop is nearly pure teak special care must be taken to reserve other kinds, even if good trees cannot be found: similarly, if teak is very scarce, even inferior teak trees should be reserved.

5*th*.—The quality of the trees to be reserved must be carefully considered; but on steep slopes, tops of hills, ridges, &c., whatever is available must be reserved.

6*th*.—Fruit-trees, such as mango, mhowra, toddy-trees, temburni and Ápta trees, if sound and flourishing, should, as a rule, be reserved.

7*th.*—Very inferior kinds of trees which have no value as timber and very little as firewood should be kept as standards *only* when other kinds of trees are not obtainable.

(B).—Number and Distribution of Standards.

8*th.*—All promising young trees of any valuable kinds under 12″ girth at breast-height shall be preserved, and shall not be felled.

9*th.*—On flat, undulating, or gently sloping ground an average of 15 trees to the acre to be reserved.

10*th.*—On steep slopes up which a man can walk without much difficulty, an average of 20 trees to the acre.

11*th.*—On very steep slopes where a man must climb rather than walk, an average of 30 trees to the acre.

12*th.*—Crests of hills, ridges, precipitous upper slopes require protection, and all trees suitable for reservation should be kept.

13*th.*—Heads or commencements of water-courses require protection, and standards of all kinds should be reserved in clusters or groups in such places.

14*th.*—Along banks of rivers or large nálás trees should be freely reserved up to a distance of about 20 yards from the edge of the bank.

15*th.*—Blanks within a coupe require special attention; all trees, however poor, within them must be preserved, as well as a fringe all round.

93. These rules are most useful as a general guide, but the selection of reserves is a work requiring the exercise of great intelligence, and cannot be tied down to hard-and-fast rules. To perform such work satisfactorily, specially trained native officers are required. At present round-guards, under the direction and supervision of Sub-Divisional Officers, prepare the coupes by selecting and marking the standards, and making a register of them, and at the same time estimating the contents and value of the unreserved trees to be exploited. A few of the coupes are prepared by the Sub-Divisional Officers personally, and a certain number of coupes is visited by the Divisional Forest Officer. But it must be remembered that in the North Thána Division alone there are 161 coupes to be prepared annually, the normal coupe area being 60 acres, and that the coupes spread up the sides of high and steep hills; therefore it is physically impossible in a camping season of about 200 working days for the educated talent available for the work to organize all the coupes in a division, and many of them have necessarily to be undertaken by forest guards whose intelligence and education are not of high order.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

1.—ESTABLISHMENT.

94. The controlling staff of the Forest Department, Northern Circle, consisting of 1 Conservator of Forests and 13 Deputy and Assistant Conservators of Forests, for the administration of the forests in 12 divisions, remained unchanged during the year.

95. Mr. Shuttleworth, Conservator of Forests, Northern Circle, enjoyed privilege leave of absence for three months from the 16th May to the 18th August 1890, under sanction of Government Resolution No. 2830 of 25th April 1890, and Mr. R. C. Wroughton, Deputy Conservator of Forests, Second Grade, and Divisional Forest Officer, Poona, acted as Conservator of Forests, Northern Circle, during his absence; while Mr. W. G. Betham, Deputy Conservator of Forests, Second Grade, and Divisional Forest Officer, Násik, acted in place of Mr. Wroughton as Divisional Forest Officer, Poona; and Mr. W. A. Wallinger, Sub-Assistant Conservator of Forests, Third Grade, acted as Divisional Forest Officer, Násik, for Mr. W. G. Betham.

96. Mr. R. S. Fagan, Deputy Conservator of Forests, fourth Grade, and Divisional Forest Officer, West Khándesh, was allowed privilege leave of absence

for one month from the 31st August 1890; and Mr. F. R. Desái, Deputy Conservator of Forests, First Grade, took over charge of his office in addition to his own for the time.

97. Mr. T. B. Fry, Deputy Conservator of Forests, Third Grade, and Divisional Forest Officer, Working Plans, proceeded on furlough to Europe for four months from 30th May 1890, as sanctioned by Government Resolution No. 3970 of the 7th June 1890. The Working Plans branch was carried on in his absence by Messrs. Gleadow and Wroughton in succession, in addition to their own duties.

98. Mr. R. S. Fagan, Deputy Conservator of Forests, Fourth Grade, and Divisional Forest Officer, West Khándesh, was sent on deputation to the Barwáni State, from 3rd February to 10th March 1891, under instructions contained in Government Resolution No. 223 of the 9th January 1891, in order to examine the forests of that State, and to report upon them and also to suggest a scheme for their conservancy and working. Mr. Fagan submitted a report, direct, to the Political Officer in whose jurisdiction is the Barwáni State.

99. Mr. G. P. Millett, Assistant Conservator of Forests, First Grade, and Divisional Forest Officer, South Thána, enjoyed privilege leave of absence to Europe for three months from 10th September 1890, under Government Resolution No. 6238 of 3rd September 1890, Revenue Department. The work of his office was carried on in succession by Messrs. Gleadow and Stewart, in addition to their own duties.

100. No change has been made in the numerical strength and constitution of the staff of Sub-Assistant Conservators attached to the Northern Circle during the year.

101. And no change has occurred in the sanctioned complement of subordinate Forest and Depôt establishment, or in the sanctioned cost thereof, which amounts to Rs. 21,503 per mensem. The following statement in tabular form will show its distribution in the several divisions of the Northern Circle :—

No.	Division.	Number of Ranges.	Range Forest Officers.							Forest Guards.						Remarks.
			Rangers.				Foresters.									
			Rs. 100.	Rs. 80.	Rs. 60.	Rs. 50.	Rs. 40.	Rs. 30.	Rs. 20.	Rs. 15.	Rs. 12.	Rs. 10.	Rs. 9.	Rs. 8.	Rs. 7.	
1	North Thána	6								6	14	25	25	70	80	The pay of the Rangers and Foresters is personal and the men are transferred from one range to another as the exigencies of the service may require. Therefore, the number of appointments in each grade is shown in lump for the whole Circle.
2	South Thána	8								8	14	25	23	70	115	
3	East Khándesh ..	13								8	16	20	20	40	75	
4	West Khándesh ..	10								7	14	18	18	50	102	
5	Násik	14								10	20	25	26	50	158	
6	Ahmednagar	11	3	4	6	12	20	30	30	6	12	22	22	50	85	
7	Poona	11								9	17	26	25	60	120	
8	Sátára	14								9	18	24	22	57	102	
9	Sholápur	7								3	6	11	8	16	68	
10	Surat	6								2	4	4	6	18	27	
11	Panch Maháls ..	5								2	5	10	10	30	48	
	Total ..	105	3	4	6	12	20	30	30	70	140	210	205	511	980	

102. In addition to the above, a temporary subordinate Forest establishment of 6 forest guards in the Násik Division, and 45 forest guards in the Poona Division, was, as usual, entertained permanently during the year.

103. The sanctioned subordinate Forest establishment being inadequate, and in other respects inefficient for the proper conservancy and working of the large and extensive forests of this Presidency proposals for a re-organization of this staff, which had been framed by a representative committee of local officers on the basis of the remarks contained in the circular of the Government of India, No. 9-F., dated 2nd June 1888, had been submitted to Government as mentioned in paragraph 80 of the last year's administration report.

104. These proposals were accepted by Government in their integrity, and were forwarded to the Government of India for their favourable consideration in the month of May 1890. But as the Government of India required further information on certain points, subsequently under Government Resolution No. 1561 of the 26th February 1891, in the Revenue Department, Messrs. G. W. Vidal, C. S., Acting Chief Secretary to Government, J. M. Campbell, C.S., C.I.E., Collector of Bombay, and A. T. Shuttleworth, Conservator of Forests, N. C., were deputed to discuss the question of the re-organization of the executive staff of the Bombay Forest Department, in conference with the two officers, Messrs.

Ribbentrop and Hill, Inspector-General and Acting Inspector-General of Forests of the Forest Department of the Government of India, who had been deputed for the same purpose by the Government of India. The officers above-named held their first meeting in Bombay on the 9th March 1891, and they submitted a report to Government on the 15th of that month, which contained the following proposals :—

(1) The majority of the officers, Mr. Campbell alone dissenting, concurring with the proposal of the Bombay Government to sub-divide the two Forest Circles of Bombay Proper into three circles, recommended the appointment of a third Conservator of Forests for Bombay Proper.

(2) Mr. Shuttleworth, with Messrs. Vidal and Campbell concurring, held that it was indispensible to have a Conservator of Forests in charge of the Sind Forest Circle. Mr. Hill was opposed to this view; and Mr. Ribbentrop was of opinion that the Committee were not called upon to discuss this appointment.

(3) The Committee unanimously recommended a large increase in the subordinate executive staff of the Forest Department, which may be summarised and compared with the existing staff as follows :—

Present.	Rs.	*Proposed.*	Rs.
Sub-Assistants on Rs. 175 and Rs. 200	15,600	Extra Assistant Conservators on salaries of Rs. 350, 300, 250 & 200.	61,200
Rangers, including Sub-Assistants, on Rs. 150	42,240	Rangers on salaries of Rs. 120, 100, 90, 80, 70, 60 and 50 ...	91,680
Foresters, both permanent and temporary, and Depôt officers...	54,690	Foresters on salaries of Rs. 40, 35, 30, 25, 20 and 15	71,400
Guards, both permanent and temporary, and Depôt officers ...	3,52,778	Guards on salaries of Rs. 15, 12, 10, 9, 8 and 7	3,78,650
Clerks	55,680	Clerks on salaries of Rs. 100, 80, 60, 50, 40, 30, 20, 15, 12 and 10 ...	87,732
Peons	13,488	Peons on salaries of Rs. 10, 9 and 8 .	18,720
Total of permanent and temporary establishments transferrable to permanent	5,34,476	Total of permanent establishment	7,09,392
Add—Cost of temporary establishment not convertible to permanent	17,626	*Add* per temporary establishments	15,354
	5,52,102	Grand Total ...	7,24,746

(4) The Committee submitted approved rules for first appointment to the classes of—

(*a*) Forest guards,

(*b*) Foresters,

(*c*) Rangers,

(*d*) Extra Assistant Conservators.

(5) And the Committee believing, that the College of Science at Poona had greater facilities in its existing professorial staff than are to be found in any other similar institution in India, for teaching all subjects accessory to forestry, considered that in order to make the instruction in a Forest branch efficient, it was absolutely necessary that at least one trained Forest officer of experience should be attached to the College as Professor of Forestry with no other duties, and they recommended accordingly the appointment of a Forest officer as Professor of Forestry at the College of Science.

But no orders of Government were passed upon these proposals before the end of the year.

105. Forest subordinates in the different divisions as detailed below have been dismissed during the year under report:—

(1). *North Thána Division.*—1 round guard and 2 beat guards, the former for leaving his round without leave, and the latter on being convicted and imprisoned by the Sessions Judge for causing grievous hurt.

(2). *South Thána Division.*—5 beat guards for going away on leave without permission, insubordination and misconduct.

(3). *East Khándesh Division.*—5 round guards and 21 beat guards for gross neglect of duty, insubordination, absence without leave, and for other charges of misconduct.

(4). *West Khándesh Division.*—2 round guards and 22 beat guards—(3 of the latter after conviction in a criminal court), for disobedience and neglect of duty.

(5). *Násik Division.*—19 forest guards for misconduct, absenting without permission, &c.

(6). *Ahmednagar Division.*—4 forest guards for misconduct and neglect of duty.

(7). *Poona Division.*—1 round guard and 9 beat guards, for absence without leave and misconduct.

(8). *Sholápur Division.*—2 round and 2 beat guards for gross neglect of duty and absence without leave.

(9). *Surat Division.*—11 forest guards for neglect of duty, absence without leave and for misconduct.

(10). *Panch Mahál Division.*—4 forest guards for disobedience, insubordination and neglect of duty.

106. The subjoined statement will exhibit the sanctioned strength of the office establishment, with a monthly cost of Rs. 2,789, which continued unchanged throughout the year :—

No.	Division.	Number and Gradation.											Monthly Cost.
		Clerks.								Peons.			
		Rs. 100.	Rs. 80.	Rs. 60.	Rs. 50.	Rs. 40.	Rs. 30.	Rs. 20.	Rs. 15.	Rs. 10.	Rs. 9.	Rs. 8.	
													Rs.
1	Direction	1	1	1	2	2	2	2	...	1	1	5	579
2	North Thána	...	...	...	1	1	1	1	2	...	1	3	203
3	South Thána	...	...	...	1	1	1	1	2	...	1	3	203
4	East Khándesh ...	...	...	...	1	...	1	2	2	...	1	3	183
5	West Khándesh ...	...	...	...	1	...	1	2	2	...	1	3	183
6	Násik	...	...	...	1	...	1	2	2	..	1	3	183
7	Ahmednagar	...	...	...	...	1	1	2	2	...	1	3	173
8	Poona...	...	...	...	1	...	1	2	2	...	1	3	183
9	Sátára	...	...	..	1	...	1	2	2	...	1	3	183
10	Sholápur	...	...	...	...	1	1	2	1	...	1	3	158
11	Surat	...	...	...	1	...	1	2	2	...	1	3	183
12	Panch Mahals... ...	...	...	...	...	1	1	2	1	...	1	3	158
13	7 Sub-Assistant Conservators Offices .	...	...	...	...	...	...	...	7	...	...	14	217
	Total ..	1	1	1	10	7	13	22	27	1	12	52	2,789

107. The total expenditure incurred upon Forest establishments during the year has amounted to Rs. 4,52,279-2-1 under the following budget sub-heads :—

	Rs.	a.	p.
B. *I.a.*—Conservator's salary	20,708	2	9
B. *II.a*—Conservator's travelling allowance ...	2,356	7	2
B. *I.b.*—Superior officers' salary	97,271	13	3
B. *II.b.*—Superior officers' travelling allowance ...	25,111	7	4
B. *I.c.*—Subordinate officers or protective establishment's salary	2,47,467	3	1
B. *II.c.*—Subordinate officers or protective establishment's travelling allowance	14,6[illegible]	10	9
B. *I.d.*—Office establishment's salary	33,385	14	8
B. *II.d.*—Office establishment's travelling allowance ...	11,360	7	1
Total ...	4,52,279	2	1

2.—GENERAL PROTECTION AND BREACHES OF THE FOREST LAW.

108. The following table shows the number and result of prosecutions of forest offences in the year under report, and in the previous year, respectively:—

No.	Division.	1889-90		1890-91		Percentage of Failures		Remarks
		Prosecutions	Acquittals	Prosecutions	Acquittals	1889-90	1890-91	
1	North Thána	106	22	214	25	20·7	11·6	
2	South Thána	208	34	130	41	16·3	31·5	
3	East Khándesh	371	22	119	14	5·9	11·7	
4	West Khándesh	186	14	126	23	7·5	18·2	
5	Násik	105	19	87	30	18·0	34·5	
6	Ahmednagar	59	18	95	31	30·5	32·6	
7	Poona	216	57	474	110	26·3	23·2	
8	Sátára	27	13	37	11	48·1	29·7	
9	Sholápur	118	45	97	24	38·1	24·7	
10	Surat	8	2	4	3	25·0	75·0	
11	Panch Mahálś	37	7	50	10	18·9	20·0	
	Total ...	1,441	253	1,433	322	17·5	22·4	

109. There were 99 cases awaiting disposal from last year, but as this number did not include 11 cases for North Thána and 1 for Sátára, these have been added now, and bring the total of pending cases to 111, which, with 1,322 original cases, make up the 1,433 cases disposed of during the year. In the 1,111 cases in respect of which convictions were obtained, 2,357 individuals were sentenced to punishment of different discriptions and degrees. The 322 cases acquitted affected 815 individuals. At the close of the year, 65 cases not included in the above were standing untried in different divisions, as given in the statement below: -

No.	Division	Number of cases	No.	Division	Number of cases
1	North Thána ...	9	8	Sátára	4
2	South Thána	11	9	Sholápur ...	5
3	East Khándesh ...	4	10	Surat	...
4	West Khándesh	9	11	Panch Mahálś	...
5	Násik	20			
6	Ahmednagar	...			
7	Poona... ...	3		Total ...	65

110. It will be seen that there is practically no increase in the number of cases prosecuted. The percentage of failures in the different divisions is very variable, and in some cases excessive, but though there is a rise of 4·9 in the percentage of acquittals for the circle, still the average of 22·4 cannot be regarded as a bad one when the difficulties of forest protection are considered. Last year's percentage was exceptionally good, that of the preceding year being

24·7, so that progress is still upward. The remedy for many failures would appear to be the granting of powers to Range Forest Officers, under Section 71 (*d*) of the Forest Act, to examine witnesses and record evidence, as the principal cause of failure appears to be that witnesses give different evidence in Court to what they have given in the preliminary enquiry, or deny all knowledge of the offence on which the charge is made If these powers were given and duly used such witnesses could be convinced of the difference between perjury and mere prevarication.

111. The general protection of the forests may be considered to have been satisfactory. Seeing that a small establishment has to guard 8,285 square miles and 459 acres of reserved and protected forest, which intermingle with many embarrassing areas of occupied or cultivated land, and seeing the facility with which the royalty trees spread over the face of the country at large can be plundered, it cannot fairly be urged that twelve or fifteen hundred cases in the 12 months indicate undue severity or hasty resort to the higher criminal courts.

112. The very larger proportion of acquittals in Surat is due to the fact that only 4 cases were tried, of which 3 failed. With regard to this the Collector of Surat writes :—

"The number of prosecutions for forest offences is again so small that no fair deduction can be drawn from the large percentage of acquittals."

The other figures show that the supervision by Divisional Forest Officers has been careful and effective. The best results appear in North Thána, East and West Khándesh and the Panch Maháls, and they reflect credit upon Messrs. Desái, Fagan, Gleadow, Keys, the Divisional Forest Officers, and the Sub-divisional and Range Officers under them. The proportion of failures in most cases would be far less, but for the expensive privileges of carrying cutting instruments into the forests, and of shikár, which cause great harm and render the detection of forest offenders a matter of very great difficulty. Timber and other produce brought from private lands is now brought under the operation of the rules under Section 41, Forest Act, by Act V of 1890, but new rules are under the consideration of Government, and pending final arrangements, the advantages of the new law cannot be said to be as yet fully obtained.

113. The following statement will exhibit the classification of the new cases prosecuted during the year under four different headsof crime, as prescribed by the Forest Department Code :—

No.	Division.	Character of Offences.					Remarks.
		Injury to Forests by fire.	Unauthorized fellings or appropriation of wood and minor Forest Produce.	Grazing without permission or in tracts where grazing is prohibited.	Other Offences.	Total.	
1	North Thána ...	2	207	3	...	212	
2	South Thána ...	2	116	4	13	135	
3	East Khándesh ...	13	25	11	65	114	
4	West Khándesh .	26	29	3	72	130	
5	Násik	1	39	24	25	89	
6	Ahmednagar ...	1	22	43	15	81	
7	Poona	1	65	339	45	450	
8	Sátára	2	11	18	8	39	
9	Sholápur ...	...	24	36	26	86	
10	Surat	...	2	.....	...	2	
11	Panch Maháls ...	...	46	.....	3	49	
	Total ...	48	586	481	272	1,387	

114. The following statement will show the number of cases decided in accordance with Government Resolution No. 7844, dated 3rd October 1884, in

the Revenue Department by Revenue officers, under Section 43 of the Land Revenue Code, in the protected forests of the North and South Thána Divisions, as compared with that of the previous year :—

Forest Division.	1889-90.					1890-91.					Remarks.
	No. of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.	No. of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.	
		Rs. a. p.			Rs. a. p.		Rs.			Rs.	
North Thána...	29	119 14 1	..	29	161 2 1	*44	73	...	2	119	* Of these 42 cases of cutting, tahál, worth Rs 168, in Máhim, remain undisposed of.
South Thána...	58	245 9 10	...	58	423 10 4	6	36	...	6	8	
Total ...	87	365 7 11	...	87	584 12 5	50	109	...	8	127	

115. A comparative statement showing the number of cases compromised under Section 67 of the Indian Forest Act is given below, as directed in Government Resolution No. 3527 of the 2nd May 1884 in the Revenue Department :—

No.	Division.	Taken into Court.		Compounded under Section 67 of the Forest Act.		Total No. of Cases.	
		1889-90.	1890-91.	1889-90.	1890-91.	1889-90.	1890-91.
1	North Thána	106	214	46	99	152	313
2	South Thána	208	130	211	356	419	486
3	East Khándesh ...	371	119	446	1,246	817	1,365
4	West Khándesh ...	186	126	492	1,168	678	1,294
5	Násik	105	87	852	1,029	957	1,116
6	Ahmednagar	59	95	2,157	2,481	2,216	2,576
7	Poona	216	474	742	1,707	958	2,181
8	Sátára	27	37	280	147	307	184
9	Sholápur	118	97	1,165	1,553	1,283	1,650
10	Surat	8	4	26	20	34	24
11	Panch Maháls ...	37	50	68	111	105	161
	Total ...	1,441	1,433	6,485	9,917	7,926	11,350

116. From the above statement it will be seen that there is a large increase especially in the number of cases compounded under Section 67. All the cases compounded in the Deccan divisions, with few exceptions, were of cattle trespass into reserved forests; and in the Konkan Divisions, with few exceptions, were of theft of wood and minor forest produce. The general protection of Forests by Forest subordinates shows considerable improvement, although the protective establishment is numerically insufficient for the proper protection of the enormous area of forests it has in its charge, and to carry on its many other duties. The power of composition has been carefully and well exercised by the Divisional Forest Officers, and the figures show what considerable amount of work they have done, to the great relief of the criminal courts. The increase in offences is not due either to undue severity or to any real general increase of crime, but to a better performance of duty by the subordinate establishment, which shows that its moral tone is much improved. It is doubtful whether those divisions, which show a very small and decreasing crime register, are really in as satisfactory a state as the figures appear to indicate. The large number of cases compounded, as compared with those prosecuted, shows that the Divisional Forest Officers have been actuated by a conciliatory spirit. As the Divisional Forest Officers do not bargain with the delinquent as to the amount he is or is not will-

ing to pay, but prosecute in all cases where he refuses to pay the compensation fixed (unless he can show good extenuating circumstances), there is a practical guarantee that the power of compounding is not abused.

117. The amount realized in cases compounded under Section 67 of the Forest-Act in the several divisions of the Northern Circle during the year is given in the statement below. It amounts to Rs. 28,854-10 7 against Rs. 17,074-15-1 of last year —

No	Division	Amount		
		Rs.	a.	p.
1	North Thána	511	5	6
2	South Thana . ..	932	0	0
3	East Khandesh	4799	10	8
4	West Khandesh . .	3,898	11	10
5	Nasik	3,935	12	11
6	Ahmednagar	4,115	15	10
7	Poona	5710	7	0
8	Satára . . .	290	3	9
9	Sholapur	1,684	1	7
10	Surat	509	6	2
11	Panch Mahals	166	15	4
	Total	28,851	10	7

The increase in the recoveries under this head corresponds with the increased number of offences.

118. The following statement will give the number of complaints in each district, disposed of under Section 67 of the Forest Act, with the number of cases in which compensation has been accepted, also "*the number of appeals against decisions passed under Section 67*," and the manner of their disposal, as directed by Government in paragraph 11 of their Resolution No. 1899 of the 13th March 1891 :—

No	Division	Number of complaints disposed of under Section 67 of the Forest Act	Number of cases in which compensation has been accepted	Number of "appeals" against the proceedings	Manner in which "appeals" have been disposed of	Remarks.
1	North Thana	99	99		.	
2	South Thána	356	356	.	.	
3	East Khándesh	1,246	1,239	1	The accused requested the Conservator to remit the sum, Rs 10, which he had offered and had been accepted by the Divisional Forest Officer, but the Conservator refused to reverse the proceedings	
4	West Khándesh	1,168	1,168			
5	Násik	1 029	901	1*		* The "appeal" was not disposed of during the year.
6	Ahmednagar	2 481	2,181			
7	Poona	1,707	1,707			
8	Sátara .	117	117			
9	Sholapur	1,553	1 553		.	
10	Surat ...	20	20	.	..	
11	Panch Mahals	111	91	...	.. ...	
	Total	9,917	9,762	2		

119. The statement given below will exhibit how many sums of money were accepted under Section 67, amounting to one rupee, how many to two rupees, how many to three, and so on up to the maximum, as directed by Government in their Resolution quoted above :—

| No. | Division. | Number of cases in which Compensation was fixed at Rupees | | |

some 50 per cent. in the number run in during the year under report; and though there may not be wanting those who might place an unfavourable construction upon such heavy impoundings, still there can be no manner of doubt that it is simply a sign of better performance of duty by subordinates, and of the spirit of bilking payment which pervades all classes of villagers. The owner of cattle often turns his cattle out to forage for their food, and he prefers to run the risk of the pound to pay the grazing fee, knowing well that if the animals should get into a closed forest, and be not caught, they will secure a good feed free of charge. There has always been a tenderness towards the rayat on the subject, amongst others, of cattle trespass, so that he has really come to think that regulations are not of much account after all. Mr. Hornidge says: "The trespass of cattle into forests closed against them has as usual occurred in a wholesale manner;" * * * and that the hands of the Department have not been strengthened. "Again, the number (25,494) does not anything like represent the immense herds of cattle that must have secured pasture illicitly." The Divisional Forest Officer, Sátára, Mr. Greathead, says:—"It is satisfactory to note that in several of the prosecutions for illegal grazing accompanied with attempted rescue of the cattle, and violence, or threats to the forest guards, the offenders received deterrent punishment for the first time since undersigned has been in charge of this division": and again, "the leniency of the Subordinate Magistrate in previous years making the people think they could trespass with impunity." Mr. Millett, from North Thána, reports:—"The number of cattle impounded does not represent the number that were guilty of trespass in the closed forests or of grazing without payment of fees. Cattle are often merely driven out of the forests, and the owners warned, either because they were trespassing for the first time, or because the distance of the pound from the scene of offence was too far to make it practicable to drive the cattle there."

123. The cattle impounded for grazing in open areas without passes amounted to 100,221, in the several divisions for which returns are available. It does not follow that because the area is "open" therefore the only offence of the owners was the omission to provide themselves with a free-pass. Many, if not all, of these cases would be of people who had no right to graze at all, unless on payment of fees.

124. Government, and the Government of India also, have acknowledged the fact that grazing, no less than the production of timber, is an integral factor in forest conservancy; and though this recognition has not yet been as complete as it must eventually be, yet a great step has been made by formulating the three objects

(*a*) of limiting the number of cattle,
(*b*) of fixing grazing seasons,
(*c*) of closures by rotation.

125. There is some prospect that in certain districts the scale of pound fees will be raised. This will be a step in the right direction, but the root of the cattle trespassing lies in the improvident system of cattle tending, under which the rayat keeps more useless cattle than good ones, and leaves the animals to look after themselves, foraging for their living. They will rather burn the forest and see the cattle all starve on the bare hill-side than take the trouble to lay in a supply of grass. Government itself has recorded the notorious fact that the worn out and useless cattle are kept until they die of starvation, but it remains to be said that they are kept mostly at the sole expense of the State in its Forest Department.

Criminal Cases.

126. In the North Thána Division, Trimbak Balvant Khot, depôt officer and servant of the contractor of the Bharol coupe, was prosecuted for the theft of 4 khair and 2 teak trees, from the forests outside the coupe limits. The offender was convicted and sentenced to three months' hard labour and a fine of Rs. 50 was also imposed on him. With the sanction of Government a reward of Rs. 25 was paid to the police pátil of Sukwar who discovered the theft, and a similar sum was divided amongst the villagers.

127. Gangádhar Vishvanáth Kondkar, contractor of the Rájvali coupe, was prosecuted for removing wood from the coupe without passes under Section 41 of the Forest Act, and was convicted and fined Rs. 50. The fine was, however, remitted by the Sub-Divisional Magistrate on appeal.

128. Under Government Resolution No. 5399 of the 2nd August 1890, an enquiry was held by the District Deputy Collector under Section 80 of the Forest Act, to ascertain whether the Isafatdár of Amgaon, táluka Váda, in the Thána District, had protected the forests of the village in a proper manner, in pursuance of his agreement under which he is to receive one-third share of the forest revenues in payment for his work of protection. The District Deputy Collector carefully inspected the forests of Amgaon, and the evidence of the Divisional Forest Officer and other Forest officials was taken, but no decision had been passed in the matter before the close of the year. Judgment was eventually given against the Isafatdár.

129. In South Thána the case against two round guards, accused of complicity in a forgery case was not disposed of during the year owing to one of them not being forthcoming. Three beat guards were prosecuted on a charge of having taken an illegal gratification of Rs. 20 in the matter of an illicit liquor-still discovered by them in a forest. The case had not been disposed of up to the end of the year.

3.—CIVIL SUITS.

130. *Poona.*—As regards the suit referred to in paragraph 99 of the last year's Annual Report, it was not found easy to recover from Dipchand Balkisan even the costs paid to him by Mr. Wáman Rámchandra Gaundé. Dipchand however having gained a suit for Rs. 320-5-5 against the Public Works Department, that amount was attached but the money had not been actually received and credited during the year. Rs. 184-10-8 were paid as fees to the Pleaders representing Government in this suit.

131. *North Thána.*—Little progress in the case referred to in paragraph 97 of the last year's report was made. The reason for this has been the absence of the most important witness on behalf of Government, a temporary round guard named Sháligrám, who has absconded to escape prosecution on a criminal charge of misappropriation of Government money.

132. A suit has been filed by Government against the Isafatdárs of Amgaon, Váda Táluka, to recover Rs. 2,756-8-0 due from them to Government as judi on their share of the proceeds of fellings made. The case has not been decided.

133. *South Thána.*—Parbhu Govindji Thakar brought an action in appeal to recover Rs. 203-5-4 for loss, &c., sustained by the confiscation of certain bamboos in Mokháda by the Range Forest Officer in 1886-87. The appeal was decided against Government, and the sum of Rs. 203-5-4 was paid to appellant under direction of the Court.

134. Báji Shámráo, Inámdár of Khándas, brought a suit against the Forest Department on account of the destruction of crops which were being raised in land provisionally included in forest. The suit was brought as a test of the Inámdár's right to the land thus proposed for forest, and was withdrawn on the same being recognized, each side paying its own costs.

4.—FOREST FIRES.

135. The results of fire conservancy in the several divisions of the Northern Circle during the year, compared with the preceding year, are given in the following statement:—

No.	Division.	Forest area placed under protection against fire.		Average burned.		Percentage burned.		Expenditure incurred.		Remarks.
		1889-90.	1890-91.	1889-90.	1890-91.	1889-90.	1890-91.	1889-90.	1890-91.	
1	North Thána ...	449,347	449,465	8,041	53,539	1·7	11·9	1,181	751	The figures entered in column "Forest area under protection against fire" during 1890-91 include the areas provisionally notified under Sections 4 and 28 of the Act which are in charge of the Forest Department, but which are not included in Form No. 49.
2	South Thána ...	506,409	425,097	16,312	85,300	3·2	20·0	683	589	
3	East Khándesh	562,473	518,169	27,972	19,345	4·9	3·7	79	95	
4	West Khándesh ...	1,150,888	1,088,621	590,745	606,972	51·3	55·7	144	173	
5	Násik*	763,327	763,333	6,360	10,187	0·83	1·3	14	102	
6	Ahmednagar ...	563,512	541,003	817	592	0·14	·01	...	...	
7	Poona	477,935	477,090	4,793	2,154	1·0	0·45	74	63	
8	Sátára	437,159	440,867	480	4,062	0·10	0·92	8	...	
9	Sholápur	177,242	177,693	665	487	0·37	0·27	...	...	
10	Surat	478,109	477,930	215,000	433,616	44·9	90·7	2	12	
11	Panch Maháls ...	207,765	212,240	13,317	9,014	6·4	4·2	...	1	
	Total ...	5,774,166	5,571,508	884,502	1,225,268	15·3	21·9	2,176	1,786	* Excluding the Dindori Range, because it is not included in Form No. 49.

136. The area burned this year is roughly calculated at 1,225,268 acres against 884,502 acres burned last year. Though this result is not satisfactory, it is not for want of effort. The Divisional Forest Officers have paid very great attention to the fire question, and subordinates have worked very hard, not only in fire-tracing and extinguishing fires, but in making searching enquiries into each individual case.

137. In *North Thána* fire protection, in spite of the attention it has received during the past year, can unfortunately show no improvement. Fires have been rife all over the district during the year under report, more specially in the Bassien and Váda Tálukás, where nearly all the forests have been traversed. Fire paths were as usual burnt round all forests at an expenditure of much labour and money, but as before they have proved practically useless to keep out fires, though they may at times have offered some check to their spread. Still what was left unburnt on one occasion would succumb to a second fire a short time later; and it is unfortunately but too certain that the great majority of the fires, which take place, are the result of deliberate incendiarism. It is seldom that the origin of a forest fire can be traced, for of all the 244 cases reported from North Thána only one man has been sentenced to one month's rigorous imprisonment. The offender was traced with some certainty in about 10 other cases, and has been either treated gently on the score of accident, or sent up for trial in case of gross carelessness.

138. In nine villages of North Thána has fire occurred three times in the forests and in one village four times.

139. In *South Thána* fires have been as frequent as usual, and the area burnt shows a large increase. The Tánsa Duct work has been responsible for some of these fires, but the Divisional Forest Officer states his absolute conviction that the accidental fires are certainly not 10 per cent. of the whole, and that the most strenous efforts can only be vain, so long as the sole responsibility rests on the Forest subordinates. The forests were fire-traced and every fire that occurred was specially inquired into and reported upon, and endeavours were made to discover the guilty parties, but only in two cases were the offenders found out and they were discharged by the Magistrate for want of adequate proof. One hundred and fifty-seven fires were reported.

140. In *East Khándesh*, for the first time special protective measures were taken in 12 out of the 13 ranges. The fires reported were 50 as against 67 in the previous year, and the area burnt 19,345 against 27,972 acres. The figures, if correct, reflect credit on the establishment, but Mr. Desái shares the general opinion that, "as long as rights of way exist in all directions, and people are allowed to wander about in Reserved Forests, without any sort of control, it will be impossible to put a stop to forest fires."

141. The season was an unfavourable one; the rainfall, though seasonable, was not heavy, and in the absence of the late rains the forests had become inflammable earlier in the season than usual. The exemplary punishments inflicted in the previous year had also a great deal to do with improving fire conservancy. Mr. Desái, however, is again complaining of the "light sentences * * which cannot possibly have any deterrent effect." The punishments awarded in East Khándesh are however heavier than in some other divisions. Mr. Desái shows the extraordinary result that in 20 out of the 50 cases reported, the offenders were discovered.

142. In *West Khándesh*, there were 142 fires reported, against 103 last year, and 606,972 acres burnt as against 590,745 last year. The offenders were discovered in 29 cases, and out of the 21 prosecutions which followed, 8 convictions and 3 acquittals resulted, 10 cases being pending at the close of the year. Mr. Fagan, the Divisional Forest Officer, remarks:

"Four out of the eight convictions were obtained in Navápur alone, but the punishments awarded were so trivial that they can have no other effect than seriously hampering fire conservancy in the future, the punishments being of a few hours' simple imprisonment in most of the cases."

Again, Mr. Fagan says, "when the incendiaries are caught the Subordinate Magistrates, and even some Forest officers, seem to think the man justified if he has only a good excuse at hand, such as that he saw a bear, or had some of

his cattle killed and so wanted to clear the forest. If these excuses were to be admitted in courts, and they have been so in more than merely two or three occasions, the time taken in discovering and prosecuting the offenders and in putting out the fires is positively so much wasted time."

143. In the Násik District fire conservancy has not been a great success although the system of fire-tracing was extended. Many of the fires are put down to the fault of the subordinates who did not complete the traces before the grass got dangerously dry.

144. In Poona there is a small deterioration in fire protection which is put down to Commissariat contractors or their enemies, and to soldiers and and other visitors to Khandála. Most of the cases are supposed to result from the carelessness of privilege-holders.

145. In Sátara there is an increase of from 480 to 4,062 acres burnt, which is stated to be principally the work of privilege-holders. The increase is partly due to the fact that the season was favourable to fires.

146. In Surat the area burnt shows a large increase, which is due to correction, by the Divisional Forest Officer from his own observation, of the figures supplied by range officers: practically almost the whole of the Dángs is burnt every year, and as that district is not yet demarcated, and is only partially under our control, the fire protection in Surat is not by any means so bad as it appears.

147. In the Panch Máhals there is an improvement, but Mr. Keys considers the fire protection in his division still very bad, and complains that there can be no improvement expected until pátils and privilege-holders are taught to turn out and suppress a fire, as soon as it arises, without waiting for the forest guard to come and persuade them to assist.

148. In Sholápur there was a small improvement. The cause of fire is generally given as sparks from the Railway, but Mr. Hornidge says that the fires revealed so many signs of sheep-trespass and occurred so shortly before his visits, that he suspects the guards let them to hide their own iniquity. The Sholápur cattle-owner is much too well aware of the value of grass to permit himself the extravagance of burning it, even in closed areas. In Ahmednagar the results are satisfactory, and here also the cattle-owners can be trusted not to burn any grass.

149. The special point about the year's fire conservancy is that very strenuous efforts were made to obtain a good record and they have failed. The opinion of the Divisional Forest Officers is unanimously to the effect that—

(1) fires will rage as long as the forests are open to all, and

(2) that until the Native Revenue and Magisterial officers of all grades can be brought to look upon the burning of forests as a serious offence, the time and labour of the Forest officer in fire protection are but wasted.

5.—GRAZING AND FODDER GRASS.

150. The grass and grazing revenue of the forests in the Northern Circle has shown a remarkably steady increase, as will be seen from the following figures :—

	Rs.		Rs.
1878-79	42,629	1884-85	2,25,853
1879 80	64,613	1885-86	2,32,650
1880-81 .. .	1,00,413	1886-87	2,37,126
1881-82	1,11,765	1887-88	2,48,855
1882-83	1,64,444	1889-90	3,42,037
1883-84	1,97,963	1890-91	3,61,983

151. The following statement will exhibit the revenue of the several divisions of the Northern Circle, under the different Working Plan heads :—

No.	Division.	Valuable Kurans or Fodder Grass.		Fee Grazing.			Auction Grazing.		Free Grazing.			Grass given to Commissariat Department.		Area closed to grazing.	Miscellaneous Grazing Revenue.	Total Grazing Revenue.
		(a) Area.	(b) Amount realized.	(a) Area.	(b) Number of Animals grazed.	(c) Amount realized.	(a) Area.	(b) Amount realized.	(a) Area.	(b) Number of Animals grazed.	(c) Money value of the privileges or right.	(a) Area.	(b) Amount.			
		Acres.	Rs.	Acres.		Rs.	Acres.	Rs.	Acres.		Rs.	Acres.	Rs.	Acres.	Rs.	Rs.
1	North Thána	10,610	5,721	417,177	3,447	1,251	...	...	417,177	171,750	42,937	...	...	21,580	260	7,232
2	South Thána	3,385	402	399,837	18,902	6,702	...	...	399,837	180,000	36,000	...	...	23,385	156	7,320
3	East Khándesh	31,196	14,422	478,856	213,720	34,142	...	...	261,480	11,025	1,375	...	...	39,108	5,963	55,527
4	West Khándesh... ...	20,827	4,245	788,088	496,974	68,890	...	...	53,740	81,000	15,300	...	...	223,472	8,634	81,275
5	Násik	49,294	11,053	434,208	189,552	42,529	...	...	287,459	87,522	18,213	...	...	204,739	2,157	56,639
6	Ahmednagar	890	403	320,961	122,156	25,142	9,134	4,334	14,808	18,487	1,424	5,994	8,991	195,427	5,809	35,688
7	Poona	51,128	34,597	213,011	93,675	14,845	31,637	1,047	...	7,135	4,895	16,224	32,600	140,361	4,717	55,116
8	Sátára	43,270	18,954	120,411	63,107	7,530	126,774	12,817	155,301	72,050	17,500	...	...	30,791	43	39,144
9	Sholápur	47,790	10,752	28,464	29,883	5,471	...	...	12,911	19,369	2,446	...	...	124,901	2,533	18,756
10	Surat	...	...	47,717	1,482	551	60	49	707	1,000	250	...	...	6,658	376	976
11	Panch Mahals	16,983	1,517	38,700	18,414	4,786	—	...	137,000	47,000	13,200	...	...	1,842	7	6,310
	Total ...	276,002	1,01,876	3,288,330	1,258,372	2,11,205	167,605	18,247	2,304,130	696,339	1,53,540	22,318	41,591	1,013,014	30,655	361,983

152. The following table compares the results of the present and previous years for each division:—

No.	Division.	Grazing Revenue, 1889-90.	Grazing Revenue, 1890-91.
		Rs.	Rs.
1	North Thána	14,443	7,232
2	South Thána	6,040	7,320
3	East Khándesh	45,047	53,527
4	West Khándesh	78,781	81,275
5	Násik	55,205	56,639
6	Ahmednagar	26,040	35,688
7	Poona	51,023	55,116
8	Sátára	41,912	39,144
9	Sholápur	16,710	18,756
10	Surat	657	976
11	Panch Mahals	6,179	6,310
	Total ...	3,42,037	3,61,983

153. The revenue from the grass and grazing in all the divisions, with the exception of North Thána and Sátára, exceeds that of the previous year. The net increase of this over the preceding year is Rs. 19,946. This is due to the better prices realized from the sale of grass and grazing in "valuable kurans," and to the control exercised by Forest officers over the admission of cattle into reserves.

154. The only considerable decrease was in North Thána, which provides, from its forests and private lands, most of the Bombay supply. The reason is supposed to be that the larger grass fires in Bombay were followed by a rush to replenish stocks, which left the market in such a glutted state that it was very difficult to sell kurans ordinarily worth Rs. 4 per acre. In Sátára there was a considerable loss on kuran sales owing to the bad rains, but it was nearly made up by the increased collections of grazing fees due to the same cause, and to increased vigilance on the part of the guards. In West Khándesh the Divisional Forest Officer complains that "there is no limit to the number of cattle a forest villager may graze free, and in many cases the number grazed by the rich is certainly out of all reason." The same complaint has been made from North Thána, and surely must apply everywhere else. In South Thána the total revenue from grazing and fodder grass was Rs. 7,322, which, compared with that of the previous year, shows an increase of Rs. 1,280, but is still small for such a district, and the same remark applies to North Thána. Under the new grazing rules the allotment of cattle as free or fee has to be done by táluka and village officers.

155. In East Khándesh the increase of Rs. 8,480 is due to the greater demand for kurans and fee grazing. In the Násik Division, the increase of Rs. 1,434 is due to grazing fees collected under the new grazing rules. In the Ahmednagar Division, the increase of Rs. 9,648 is due to the higher rate of fees levied under the new rules, and to better prices for grazing in kurans.

156. In the Poona Division, the increase of Rs. 4,093 is due to the fact that the Commissariat Department having returned some of the kurans reserved for them, the actual area sold was larger, resulting in a net increase. In the Sholápur Division, the increase of Rs. 2,046 is due to larger collections of fees.

157. The increase of Rs. 319 and Rs. 131 in the Gujarát divisions, *viz.*, Surat and Panch Mahals, respectively, calls for no special explanation.

158. The statement given below will show the number of cattle of different kinds in the several Collectorates according to the latest returns :—

No.	Collectorate.	Cows and Bullocks.	Buffaloes.	Horses.	Asses and Mules.	Sheep.	Goats.	Camels.	Elephants.	Total.	Remarks.
1	Thána	3,77,527	91,748	...	...	...	...	...	...	4,69,275	
2	Khándesh	7,05,223	1,64,811	22,077	7,757	1,83,393		4	...	10,83,265	Sheep and goats have not been shown separately in the statements received from the Collectors of Khándesh, Sátára, Ahmedabad and Kaira, and therefore they are shown common in these two columns.
3	Násik	4,73,207	65,254	12,222	...	98,362	1,25,717	...	...	7,75,762	
4	Ahmednagar	6,37,890	59,412	23,574	5,433	2,96,085	2,00,032	...	...	12,22,426	
5	Poona	4,91,098	73,203	13,602	4,176	2,36,393	95,032	1	...	9,13,805	
6	Sátára	4,84,117	1,42,912	16,056	...	4,70,803		...	...	11,13,888	
7	Sholápur	3,91,764	66,605	9,961	2,777	2,13,131	80,010	...	...	7,64,248	
8	Surat	2,54,071	83,661	1,048	...	28,970	65,494	...	...	4,33,244	
9	Panch Mahals	2,43,156	38,116	2,084	1,691	6,242	28,674	32	...	3,20,895	
10	Ahmedabad	2,89,300	1,35,834	6,578	...	88,051		...	...	5,19,763	
11	Kaira	2,18,166	2,02,481	2,406	5,512	47,434		202	2	4,76,203	
12	Broach	85,037	4,99,313	2,510	16,087	16,087	26,414	117	...	1,81,568	
	Total ..	46,51,456	1,173,940	1,13,418	28,846	6,95,270	6,21,373	356	2	82,74,342	
						7,89,681					

159. Under Government Resolution No. 3595, dated 23rd May 1890, in the Revenue Department, the following revised rules for the regulation of grazing in forest areas in all the districts of the Presidency Proper, except in Kánara were published for general guidance :—

I.—A forest block will henceforth be divided into two portions only, viz. (1) "the open" and (2) "the closed."

II.—The term gáirán in connection with a Reserved or Protected forest will cease to apply.

III.—Grazing will be permitted *in the unclosed portion*, which will be open both to cattle allowed free grazing and to other cattle in respect of which payment has to be made for grazing.

IV.—Villages which have contributed gáirán to the formation of a forest block are to be allowed free grazing in the open forest of that forest block, *for all their agricultural cattle.*

V.—Villages which have contributed no gáirán to forests will pay fees for all their cattle admitted into the forests to graze.

VI.—The term "agricultural cattle" shall be held to comprise cattle used solely for purposes of cultivation in the village, whether for ploughing or for drawing water for irrigating garden land.

VII.—Village officers will prepare a census of all the cattle in the village, and a statement of the full amount of the fees to which they would be liable for grazing, assuming that none of them could, under the privilege accorded, claim free grazing.

VIII.—The fees leviable *on agricultural cattle* will then be remitted, in such villages where the cattle are entitled to free grazing under Rule IV, by the officer to whom the Collector may assign that duty, and the cattle in question will be admitted, upon free permits, into *the open portion* of the forest block.

IX.—Adequate restrictions are to be imposed upon the number of cattle to be permitted to graze in the unclosed portion of each forest block ; that number must be limited to the cattle for which the open area can furnish sufficient grazing, and no cattle, in excess of that number, should be admitted to graze. In determining the number it must be considered how many cattle the open portion of the forest block can, *properly*, feed, without injury to—

(*a*) the cattle,
(*b*) the pasturage,
(c) the forest itself.

X.—The Revenue and Forest officers will determine the number of cattle which can, with safety, be admitted into the open portions of a forest block.

XI.—The demands for the admission of cattle into a forest block to graze will be satisfied in the following order :—

1. Cattle entitled to free grazing.
2. Other village cattle belonging to cultivators.
3. Cattle the property of resident professional graziers and others.
4. Outside cattle.

XII.—The fees to be levied upon village cattle belonging to cultivators shall be—

For every buffalo	Re.	0	8	0
For every cow, ox, horse, mule or donkey ...	„	0	4	0
Sucking animals	free.			
For every sheep	„	0	1	0
For every goat	„	0	2	0

The Revenue and Forest officers shall decide whether or not sheep are to be admitted to graze in an open forest block.

Goats will only be admitted when accompanying flocks of sheep but only in the proportion of 1 goat to every 50 sheep.

Should the villagers prefer to pay a consolidated fee for grazing all their cattle (sheep and goats excepted), whether privileged or not, the Revenue officers shall meet their wishes, subject to the sanction of the Commissioner of the Division, who will determine the proportionate reduction of the fees.

XIII.— Forest officers in protective charge of forest blocks shall require the village officers to muster all the village cattle in the village, in the early morning, once a month, or oftener should the need arise, to compare the cattle census with the permits issued.

XIV.—Double the rate of fees prescribed in Rule XII shall be levied in the case of cattle the property of resident professional graziers and others.

XV.—The Forest officers shall determine the rate of fees to be levied on outside cattle which shall not be lower than that for resident professional graziers and others.

XVI.—Village officers will issue permits and collect the fees in respect of—

(1) Cattle belonging to village cultivators subject to the payment of a fee, the permits for which shall be printed on *yellow* paper.

(2) Cattle of resident professional graziers and others, for which the permits shall be printed on *green* paper.

They will also issue the permits for free cattle: such permits shall be printed on *white* paper.

XVII.—Forest officers will issue permits and collect the fees for outside cattle the permits for which shall be printed on *red* paper.

XVIII.—A herdsman shall be in charge of every lot of not more than 50 head of cattle; his name shall be registered by the Village and Forest officers; he shall wear a distinguishing badge of office; he shall be responsible that the grazing rules are observed in respect of the cattle in his charge and that no unauthorised cattle enter the grazing area open to his cattle, and he shall carry with him in the forest the grazing permits for his cattle.

NOTE.—The badge to be worn by the herdsmen will be a leathern belt with a brass buckle, which will be provided by the Forest Department.

XIX.— Camels, elephants and swine shall be prohibited absolutely from grazing inside a forest block.

XX.—The disposal of the grass in the closed portion of a forest block shall remain entirely in the hands of the Forest officers who may sell it for cutting and removal, or not, as to them may seem best.

XXI.—The following simple rules shall be printed on the back of each forest permit:—

(*a*) This permit must always be taken by the holder into the forest with his cattle.

(*b*) It must be shown on demand to any village or Forest officer.

(*c*) The holder must assist in the protection of the forest against fire and the cutting of ligneous vegetation.

(*d*) The holder must see that his cattle do not injure the boundary marks of the grazing area of the forest.

(*e*) The holder must not allow his cattle or other cattle to trespass into the closed portion of the forest.

The term "holder" in this rule shall be held to mean the owner or his agent the herdsman.

XXII.—Village officers shall prepare a census of all the cattle in their respective villages distinguishing between agricultural and other cattle. As regards the former a statement shall be framed showing—

(1) the name of the cultivator;

(2) the aggregate area of his holding or holdings;

(3) the number of plough bullocks or buffaloes used by the cultivator solely for cultivation in his holding or holdings;

(4) the number of wells or Persian wheels on his lands used for irrigation;

(5) the number of cattle solely employed on these wells or Persian wheels.

XXIII.—The Mámlatdár and the Assistant Collector shall compare the number of plough cattle returned with the area of the holding or holdings.

160. Subsequently, in their Resolution No. 5316, dated 29th July 1890, Government were pleased to allow free grazing to milch-cattle and their calves, the *bona-fide* property of agriculturists resident in forest villages and kept by them to supply milk for their own consumption; and this concession was made general by paragraph 8 of Government Resolution No. 8665, dated 5th December 1890.

161. In respect of valuable kurans it was directed in Government Resolution No. 4379, dated 23rd June 1890, that the present practice and the orders concerning their disposal are not affected by the revised grazing rules which are not to modify the instructions contained in Government Resolution No. 4471—80-Confl. dated July 7th, 1888.

162. "Outside cattle" were defined by paragraph 6 of Government Resolution No. 8665, dated 5th December 1890, in the Revenue Department, to mean cattle not comprised under the heads (1), (2) and (3) in Rule XI, and the rates to be levied on outside cattle are to be fixed by the Forest Department officers as directed in Rule XV.

163. The revised rules, with certain modifications, to suit local circumstances, were made applicable to the Khándesh District under order of paragraph 10 of Government Resolution No. 8665 of 5th December 1890.

164. And in a circular letter No. 1050 of the 9th February 1891, addressed to the Commissioners, Government informed them that they were authorized to relax the rules as regards the rates of grazing fees therein laid down, if in any case they should find the rates higher than the people can well afford to pay; and they further informed them that the cultivator's cattle of non-forest villages were to be charged the same rate of fee as the cattle of cultivators in forest villages, which are not entitled to free grazing but are required to pay a grazing fee.

165. The regulation of the grazing arrangements within the forest areas is entrusted by Government to the Collectors of the district under the general control of the Commissioners, whose decision is to be final; and the Conservator of Forests can only submit his opinion upon any question connected with grazing in forests for the consideration of the Commissioner.

166. The grazing rules are defective in so far as they do not prescribe a season for grazing, and conversely a season for closure against grazing, in respect of the portions of the forest areas which are opened to grazing. But the Government of India in their letters Nos 20 F., dated 12th December 1889, and 577 F., dated 7th July 1890, and the Bombay Government in their Resolutions Nos 6303, dated 27th August 1889, paragraph 4, and 6059, dated 26th August 1890, have very properly laid very strong stress upon a rational treatment of grazing in forests, which will be to the interests of the villagers as respects cattle-breeding and pasturage, as well as to the interests of forestry, by not only limiting the number of cattle to be grazed upon particular forest areas, but also fixing a season of grazing, with a close season against any grazing within grazing areas.

167. From the 16th August of one year to the 31st March of the next is generally considered to be the grazing season; and from the 1st April to the 15th August the close season against grazing in respect of grazing areas in the forests of the Deccan, with the exception of the Khándesh divisions, where the close period extends from 1st February to 31st May, and has been fixed in deference to the local popular sentiment, for there is apparently an idea abroad that in the rainy season, *i. e.*, after the 1st June, crops cover the face of the country not included in forest, so that cattle would find no place to stand and to graze if the forests were to be closed from 1st June to 15th August. This idea will probably be found to be very wide of the mark.

No period of absolute closure against grazing has yet been enforced in the Konkan where the forests are of an entirely different character to those of the Deccan. It is vitally necessary for the maintenance of pasturage in the forests above the ghats within the region of a comparatively light rainfall to keep cattle out of the grazing areas, at the time when the new grass is beginning to sprout and

grow under the influence of the newly commenced rains, for if cattle are admitted at this time they trample down and destroy much more of the young grass than they consume and there is great loss of pasturage without any compensating advantage; for cattle from June to the middle of August are not necessarily dependent upon the forests for grazing as wide experience in the Poona, Sholápur and other districts in the Deccan, where a close season has been prescribed and maintained for some years past, has conclusively demonstrated.

168. The Collector of Ahmednagar, a great cattle-farming district, who has had ten years experience as a Collector in the Deccan since the famine, writes on this point, that it is not improbable that in many cases the people find sufficient grazing for their cattle in their own fields and fallows, and therefore do not care to send their cattle into forests to graze at all, when the rainfall has been fairly good and general. Besides when the ground is saturated during the early rains, and the new grass is yet very tender and short, there is a danger also, the reality of which has been proved by the touch-stone of experience, of the root stocks being pulled out of the soil, so that under-ground spreading of the rhizomes, which improves the quality, and augments the production of grass, is checked and prevented. It is *eminently hostile* to the grazing interests, to the support of, and the production of, stock (cattle) to open the grazing portions, "*open forests*," within the forests, before the new grass has attained a considerable stature: and the middle of August is neither too early nor too late in this view.

169. In the months of April and May when grass has disappeared from the surface of pasturage areas in Western India, cattle if sent to graze browse down ligneous vegetation for want of grass, and this is inimical to forestry; therefore as there is no grass on the ground during these months, April and May are included in the close season against grazing.

170. The sustained augmentation of the receipts derived from grazing and fodder grass of the reserved forest areas of the Northern Circle, exhibited in paragraph 150 of this report, may be regarded as a safe indication of the steady and great improvement of pasturage within forest areas, which has been accomplished by rational treatment since the year of the great famine, for a fee of 4 annas for every cow, ox, horse, mule or donkey belonging to a forest villager, and of 8 annas for a buffalo, in consideration of seven and a half months' grazing, as prescribed by the grazing rules, is nothing more or less than a nominal price to pay for the food provided, and for the advantages supplied. Government have in paragraph 7 of their Resolution No. 8665, dated 5th December 1890, remarked, "As regards the rates of grazing fees as prescribed by the new rules, the Governor in Council is of opinion that they cannot be regarded as being too high when the advantages accorded are borne in mind."

171. A system of management of forest grazing areas in the Deccan, Konkan and Gujarát, which will leave these lands to the care of village officers, who have private occupations of their own claiming all their time and attention, and who have no interest in visiting constantly the distant forest grazing lands, means no management whatever, but absolute and entire neglect, while the continuous grazing of forest areas will work certain destruction, steady and sure, of grazing, and the degradation of the lands thus treated, into the state of gáirán, or unprotected village grazing ground of the Deccan villages, of which there are typical examples within half a mile of the city of Poona. The hills in the central and eastern portion of all the Deccan Collectorates, including Khándesh, were reduced to this miserable condition in the pre-famine days, and their impoverishment was the cause of their being constituted reserved forest, by order of His Excellency Sir Richard Temple, Governor of Bombay, in Council, for the only claim they had to the designation of "pasture" or "grazing" lands was to be found in the fact that they could still produce a miserably sparse growth of very inferior spear-grass during three or four months of the rains, while for the remaining eight or nine months of the year they were bare and brown, offering stones to the hungering cattle seeking for grass, which roamed starving disconsolately over them the greater part of the year.

172. The forest guard whose *raison d'être* is protection, and who has no private business of his own to attend to, but is paid for guarding the forest area as his main business of life, *must* be upon the hills to maintain and improve the pasturage, &c. But if this paid watchman of the public is removed, and his care is replaced by the imaginary protection of the village officer, the result can only be failure and ruin. The immediate effect of taking the military, and other, guards off the treasury at Poona would probably be the looting of the treasury, and the immediate effect of disforesting hills in the Deccan and other parts of Western India, together with the banishment of the forest guard, and the management of the lands being entrusted to village officers, will be an invasion by goats, together with continuous over-grazing by other cattle.

173. What complete and irreparable ruin goats will cause is simply marvellous. Tegetmeier, the naturalist, in Chapter III, "Live Stock in the Cottage" of "The English Peasantry at Home," which appeared in the December 1886 edition of Good Words, writes as follows:—"It is a fact well known to naturalists that in many parts of the world the introduction of goats has completely altered the climate. This may appear an absurd and exaggerated statement, but it is strictly true. Goats by eating the young seedlings of the trees prevent any new growth, and when the old trees die there are no new ones to take their place; hence the land that was formerly covered with forest trees becomes bare. There is no longer any foliage to attract the rain, the ground is parched by the sun, and spots formerly fertile become barren and desolate. The land on the two sides of the Straits of Gibraltar is of similar character, but one is sterile from the devastation of the goats, the other fertile from the moisture attracted from the trees."

174. These remarks deserve earnest consideration when the treatment of pastures is concerned; and it should be remembered that the Deccan is subjected to a long period of drought annually, while the rainfall is not only capricious, but is very light, and its fitful visits are confined to a very brief period of the year. The importance of protecting ligneous vegetation upon the hills to attract moisture, and to bottle the rainfall for re-distribution later on, is, in the interests of agriculture on the plains, and of the production of grass upon the hill pastures, beyond exaggeration; and a rational management of grazing in forests is undoubtedly a policy of Imperial necessity seeing how the treatment of grazing can work, and will work, for the good, or for the harm, of the peasantry.

175. The revised grazing rules prescribe a scale of fees commencing from 4 annas for every cow, ox, horse, mule or donkey and 8 annas for a buffalo for a grazing season of 7½ months for the cattle of forest villagers, with higher rates of fees for the cattle of other people; and Government in paragraph 3 of their Resolution No. 8665, dated 5th December 1890, remarked that "the rules place certain restrictions on the cattle of the non-resident agriculturists, of the professional graziers and the non-agriculturists, and it cannot, in the opinion of the Governor in Council, be denied that in the interests of the general community these three classes should be subjected to such general restrictions as are necessary for the improvement, indeed for the preservation, of the grazing in Government forest lands." But these restrictions have been relaxed subsequently; and the cattle of cultivators residing in outside or non-forest villages do not pay more now than the cattle of cultivators resident in forest villages, who from their position as forest villagers may reasonably put forward a claim to be favoured, and whom the Forest Department in order to maintain *entente cordiale* would desire to give preferential consideration to.

176. It has been shown in paragraph 14 of this report that 696,339 animals have been allowed free grazing in forests during the year, which at the lowest rate of fee of 4 annas per animal represents a loss of Rs. 1,74,085 of revenue. The forest areas in which these cattle have been allowed free grazing have been subjected to forest settlement, with the result that it has been found that they are absolutely free of any private rights of grazing, &c.

176 (*a*). Were the same rates of fees to be charged for grazing within the forest areas under the management of the Forest Department, with a limitation on the number of cattle, with a fixed season when only will grazing be allowed,

with closure of forest areas in rotation for a sufficiently long period, for one month only, or even for one week only, in place of a long season of 7½ months, still the system with these higher rates would be more favourable to the pasturage in forest lands, and to the interests of the people of the country-side in cattle farming, than would be the disforestation of the grazing portions of reserved forests, with the removal of the protecting care of forest guards, and the custody of these lands given to village officers instead; for then there would be no limitation to the numbers and kinds of animals admitted to graze; there would be no restriction of the grazing period, which would be constant and never ending; and there would be no protection of trees and ligneous vegetation upon these lands, which arrest and retain moisture locally, against the wood-cutting axe of the poor or lazy villager, who would seize the opportunity of adding easily to his income by sale of easily gotten wood; and the end would be ruin of pasturage upon the hills, and consequent disaffection of the owners of cattle.

177. Grass and grazing in forests under reasonable regulations cannot but become a very fruitful source of revenue, and at the same time a means of promoting in the highest degree the cattle-farming interests of the Presidency. The idea that the grazing of cattle is incompatible with a state of forest conservancy is simply absurd. It is true that there are portions of the forests which must be closed against cattle for a time, and that a close season must be enforced in the interests of grass and grazing in open forest, but pasturage for all the bovine cattle requiring grazing in this Presidency can be found in the forests, at proper season, under supervision and control, without serious injury to forest conservancy, and no better pasturage can be found anywhere in the above-ghát districts than is to be found within the reserved forests, the correct treatment of which, for the production of small timber and firewood, necessarily serves the production of grass, good in quality, and abundant in growth.

6.—FENCING.

178. In North Thána wire fencing was applied to two coupes in Bassein; two in Máhim and two in Dáhánu. The wire used was principally old telegraph wire, obtained from the Government Telegraph Department, and the erection of the fencing was in some cases done departmentally, and in others by contract at the rate of Rs. 19½ per 1,000 running feet. Lbs. 9,540 of wire were purchased at a cost of Rs. 620-5-0, the wire representing a length of 134,640 feet. Teak stobs were used to support the wires. The total cost of the fencing operations in the division amounts to Rs. 206-4-0. In addition to this a little euphorbia hedging was planted upon 1½ miles of boundary at a cost of Rs. 62; and a thorn fencing was erected on the boundaries of some of the coupes at a cost of Rs. 76.

179. In the Násik Division, Rs. 420-5-6 have been expended during the year in fencing reserved forests in the Násik, Niphád, Báglán and Chándor Ranges, 46,430 running feet of fencing having been planted; the material used was Sabar (Euphorbia neriifolia).

180. In the Ahmednagar Division, 5,940 feet of aloe fencing were planted out along the boundaries of reserved forest lands in the Nagar Range, at a cost of Rs. 17-2-0. In addition to this, each forest guard planted out 100 bulbs of this valuable plant in his beat, free of cost, at distances of 3 feet apart. A quantity of material was collected during the year for wire fences to be erected round bábul reserves in the Nagar and Shrigonda Ranges consisting of 15,000 lbs. of wire and 4,500 teak stobs, at a cost of Rs. 4,558-12-0 including carriage of teak stobs by rail.

181. In the Poona Division, the wire fencing of coupes in the Loni Reserve which had been undertaken last year was damaged on the river face, where it was subjected to strain from floods, and Rs 48-10-3 had to be expended in repairs. 24,978 lbs. of wire were purchased from the Telegraph Department and erected along the crest of the line of hills bordering the Southern Maratha Railway, on teak stobs, brought from the reserves round Sinhgad; the length of boundary thus fenced was 12 miles and the cost including price of wire amounted to Rs. 3,941. A further purchase of wire to the value of Rs. 2,260, sufficient to fence 6 miles of reserve in the Bhimthadi Range, was made in the Bombay

market. In addition to this, 13,703 running feet of prickly-pear fencing was trimmed and regularised.

182. In the Sátára Division 44,198 feet of aloe and thorn fencing were made round different plantations at a cost of Rs. 118.

183. In the Sholápur Division 32,821 feet of aloe fencing was erected at a cost of Rs. 238-2-0. The work referred to in paragraph 120 of the last year's report, *viz.*, the erection of a wire fence enclosing 424 acres in Karmála Range, was completed during the year.

7.—NATURAL REPRODUCTION.

184. An abundant seeding took place over all the forests of the two Thána divisions in the Konkan, and during the rains; profuse germination of seeds, naturally shed upon the ground, appeared on all sides; this is of annual occurrence, and although many of the plants only live a brief space and die, still many survive, especially where protection against cattle, human beings and fire is effective, and are restocking the closed forests with seedlings. It has been recorded in the diary of a Forest Officer during the year that the villagers remarked to him upon the changed appearance of the Persik hills in the Sálsette range, which are now covered with a fine young growth of seedlings and coppice shoots and were perfectly bare a few years ago. The reproduction in the closed compartments of forest blocks which have served as coupes is very promising. Some of them have been fenced, but this is very expensive work, and the fences are not always respected, but the closed compartments are specially watched by forest guards to keep out cattle and men with cutting implements and are fire-traced annually to preserve against fires. When the trees have been properly felled, so that the stools are level with the surface and are smooth, excellent shoots are produced. The contractor's wood-cutters are becoming very expert in the art of felling trees and trimming stools, and very little trouble is now experienced with them. This result has been attained by a little firmness; failure to cut flush with the ground and smooth has been promptly met by the department undertaking the work of levelling and trimming all high and rough stools at the cost of the contractor, the expense being cut out of his deposit. In the same way careless felling which causes damage to be done to the standards or reserves by felled trees falling upon them, tearing off branches, shattering the leading shoots, &c., has been repressed by making the contractors liable for the full value of a damaged tree. By such judicious severity a feeling of respect and care has been created in the minds of the contractors and their work-people, and the art of felling has been improved into a science; so much so that it is difficult sometimes to discover the stool of the felled tree, or to appreciate that a large tree has disappeared when the timber chips have gone. The new coppice varies with the quality of the soil to a certain extent, but exposure has more to do with its growth during the first few years. When the crop is dense, good tall shoots are to be seen. When the compartment faces to the east, and is open to the south, and obtains the full advantage of the morning sun, and its power up to late in the afternoon, especially during the autumn, winter and spring months, the growth is more vigorous than in the case of compartments exposed to the direct attacks of the monsoon winds and rain from the west. The vigour of the teak coppice is often amazing, for shoots one year old sometimes attain a height of from 8 to 9 feet and are 2″ to 3″ in diameter. The Shikári and privilege-holder and the owner of cattle who turns his animals out of the village untended, and not cared for, to go and forage for their living when not required for work, are the enemies of natural reproduction in the Thána districts, as elsewhere in Western India. No ordinary living fence will keep them out, and the idea of erecting wire or other dead fences which are not invariably effective, upon the main boundaries of forest blocks, and upon the internal boundaries of each of the 40 working compartments of every forest block, is too absurd to be entertained by any one with practical knowledge and experience: the revenues of the empire could not afford the cost; and a very effective answer to the suggestion is to be found in the fact, that the rayats do not resort to fencing, save of a temporary kind round a very small area of especially valuable garden cultivation. The forest guard must be the protective agency of natural reproduction as well as of

artificial reproduction in closed forests, and at the same time the systematic planter of blanks within forest areas. And the conservation of the young growth in exploited coupes, representing the future timber wealth of the state, is dependent mainly upon a sufficient number of forest guards instructed in, and kept up, to their work by a competent staff of educated upper subordinates controlled by an active, intelligent and zealous Divisional Forest Officer, acting under his Conservator of Forests, with the support and sympathy of the local Revenue and Magisterial officers.

185. The Divisional Forest Officer, East Khándesh, records that natural reproduction by seeds has so many enemies to contend with, before the young growth is hardy enough to take care of itself, that the increase in the growing stock is necessarily very slow at first; but the good effects of increased protection from fire and grazing are making themselves felt especially in the Sátpudás, in the Jámner and Chálisgaon reserves and in the Trans-Párna forests. Natural reproduction from stools is excellent everywhere, even in the poor forests of Central Khándesh. Broad-cast sowings of bábul seeds obtained from Sind were made to assist nature in the bábul reserves; this Sind bábul grows well in Khándesh, and appears to be superior in many ways to the indigenous kinds.

186. Mr. Fagan, Divisional Forest Officer, West Khándesh, has remarked:—"Natural reproduction is to be seen in all the closed areas and everywhere in the more remote jungles where grazing is not rampant, in spite of the fires. But where grazing is heavy there is absolutely no natural reproduction, the soil is deteriorating, and standing growth depreciating. Grazing does more harm to our forests than the fiercest conflagrations. The closed areas south of the Tápti are as good specimens of reboisement as are to be seen anywhere but the open areas are about in as backward a state as when handed over to the Forest Department." No doubt this is quite true, but it must be remembered that the "close season" against cattle in the open forests of Khándesh does not include the months of June and July with the first fortnight of August, the time when seeds germinate, when grass shoots and grows and young plant life calls for protection more than at any other period of the year. "The backwoods of the Sátpudás where little grazing takes place are teeming with growth of all ages."

187. The Divisional Forest Officer, Násik, reports that the forests in the Peint Range are growing beautifully, and are getting fuller of young growth every day; "the straight poles one sees in thousands everywhere are most gratifying to the eye of the forester." The anjan forests in the eastern ranges are growing beautifully too. The Mahádev hills which were almost bare eight or nine years ago are now covered with dense growth. The Collector of Násik records: "It is most satisfactory to note that the coppice growth from old fellings is proceeding with such encouraging results."

188. Mr. Wilkins, Divisional Forest Officer, Ahmednagar, states that the average rainfall was 20·66 for the year, and although lower than that of the year before which amounted to 25·17, was more seasonable and of a less torrential character; the late rains of December and January were very favourable. Thousands of young self-sown seedlings of khair are to be seen on the hills in the eastern tálukas, while under protection of bushes on the hills and plains and in very stony places young nimb trees are to be seen growing everywhere. Many young seedlings of the sandalwood tree are to be found on the hills to the east of Nagar overlooking the Shevgaon Táluka. In the ghát region reproduction is very good, thousands of seedlings are to be seen in the forests, those of the jámbul tree predominating, and of hirdás not so plentiful.

189. Mr. Wroughton, speaking of the Poona Division, remarks that the production from stools in the teak fellings has almost everywhere been very satisfactory. The natural reproduction from seed is a very gradual process; over very large areas the soil has yet to be formed, and over still larger the crop is mainly grass; but careful search in the latter, at a favourable time, will always show, where there has been protection from cattle, that tree seedlings are gradually establishing a footing.

190. In the Sátára Division nothing special was noticed in the way of natural reproduction except the great failure of most sorts of seeds, including

teak, ain, dhâwda, jâmbul, pisa, bhoma, &c. The season was very unfavourable in the eastern ranges for all sorts of reproduction.

191. In Sholápur Division further inspections only tend to prove what has been said in previous years, that natural reproduction is progressing very steadily indeed. Even in areas given out to grazing and at considerable distances from anything like a seed-bearer bábul seedlings have been encountered cropping up from self-sown seed. It is worthy of note that it is possible for reproduction of this kind to progress to a limited extent concurrently with the admission of cattle; but in Sholápur, it should be remembered, a close season has been enforced in respect of the open forests.

192. In the Gujarát Forest Divisions, *viz.*, Surat and Panch Mahâls, the rainfall was heavier than in the previous two years. In the Dángs natural reproduction by self-sown seeds was as good and vigorous as might be desired, and it would be simply perfect if fires could be kept out, and people restricted in making reckless cuttings for rab and in clearing tracts for shifting cultivation; seedlings of teak scarcely five years old draw up beautifully straight to heights of 15 nd 20 feet with proportionate growth in diameter. In the Mándvi Range reproduction by coppice shoots and by seedlings was satisfactory, except where fires had traversed the forests. In the forests towards the north-east, Manwel bamboos are making a fair show after a few years stoppage of the cuttings.

8. ARTIFICIAL REPRODUCTION.

193. In the North Thána Division 85 khandis 15 maunds and 5 seers of different kinds of seed, collected at a cost of Rs. 582-14-4, were sown broadcast, and 40,014 seedlings were transplanted into the closed coupes of the year.

194. In the South Thána Division plantation of bare areas inside the closed forests was carried on as usual, such works being undertaken partly by the forest guards as part of their regular work, and partly under the direction of the Range Forest Officers, with funds placed at their disposal for the purpose. Broadcast sowing does not meet with conspicuous success, but this is natural from the circumstances of the case, and must be persisted in on the principle of the constant dripping of water wearing away stone. During the year 14 acres of fresh plantation were treated under the superintendence of Range Forest Officers. Several of the plantations treated two years ago show excellent results. The area of land subjected to cultural operations amounted to 1,018 acres, at a cost of Rs. 1,277-6-3. In addition to plantations in fresh areas old plantations are gone over again, fresh seeds sown in pits in which the seedlings of the previous year have failed.

195. In the East Khándesh Division 141 khandis of different kinds of seed were sown in 2,532 acres of closed forests, without any cost, by forest guards.

196. In the West Khándesh Division cultural operations were carried on in the usual manner. The rains were at first beneficial to plantations, but the long breaks caused the seedlings to dry up.

197. In the Násik Division the plantation works were not very successful. The rainfall was not very good in the eastern ranges and was very late in falling. Seed was broadcasted in all the ranges with more or less success.

198. In the Ahmednagar Division 2,613 acres were artificially treated for reboisement during the year by hired labour at a cost of Rs. 819-14-6. Out of this 102 acres were thoroughly ploughed and sown with bábul seeds. 829 acres were ploughed with cross furrows at distances of 5 feet apart and sown with babul, nimb, bor and tarwad seed; 1,160 acres were pitted at distances of 5 feet between each pit and sown with babul, bor, nimb and tarwad, and 522 acres were broadcasted with teak and other seeds in Akola and Kopargaon. 140,580 pits distributed over an area of 539 acres were dug and sown with seeds by forest guards without any cost to Government. 5,165 acres were also broadcasted with 117 khandis of mixed seeds by the same men. The plantations at Dongargan in Nagar and Hanmantgaon in Ráhuri are in good order. The bamboos at Dongargan especially were doing well.

199. In the Poona Division 119,100 pits were prepared, and 205 khandis of seed were collected by forest guards. 376 acres were ploughed and 37,550 pits were prepared by hired labour at a cost of Rs. 1,267. In addition to this, some 1,500 acres were simply broadcasted by forest guards. In the Bárámati Range a certain area of poor land, cleared under the working-plan, and which was found to be commanded by the Nira Canal, has been watered, with most excellent results. A nursery has been started at head-quarters, not only for the more careful treatment of exotics which may be sent for experiment, but to furnish plants to be put out in the large area of hill slopes and ravines which has been specially closed for reboisement on the south side of the Southern Maratha Railway. It is hoped that some 10,000 established seedlings will be available annually for transplantation to this reserve.

200. In the Sátára Division 435 acres were nominally added to the previous area. 106 khandis of different jungle tree seeds were collected by the forest guards and sown over an area of 13,162 acres. Bamboos were again planted. The bamboo seedlings of the previous years are in a flourishing condition.

201. In the Sholápur Division the area operated over, this year, amounted to 31,615 acres, and the expenditure was Rs. 1,009-8-0. The area broadcasted, pitted and dibbled by forest guards free of cost was 12,686 acres. In addition to the above, forest guards were required to collect one khandi of 784 lbs. of seed each. The quantity of seed collected by forest guards was 73 khandis 4 maunds 7 seers, that purchased was 109 khandis 12 maunds 1 seer, and that imported was 2 khandis 17 maunds 2 seers.

202. In the Surat Division each beat guard was required to sow seeds and transplant seedlings in a select piece of 2 acres of an open area in the forest, under his charge, in pits dug 1′ deep and 4′ apart and to make a careful fence round such plantation. This was, in all ranges save the Dángs, more or less satisfactorily carried out. In addition thereto special plantations were undertaken.

203. In the Panch Mahals Division 140 maunds of seed of teak and other jungle wood trees were dibbled in by forest guards over 146 acres of blanks throughout the forests of the division. An area of 46 acres was also sown with seed amounting to 49 maunds and 6 seers, at a cost of Rs. 174-10-0.

204. The following statement will exhibit the total expenditure incurred on plantations in the several divisions of the Northern Circle with the areas added and excluded under regular plantations and cultural operations:—

No.	Division.	Regular Plantation. Area in Acres.				Cultural Operations. Area in Acres.				Total Cost.	Remarks.
		On 1st April 1890.	Added	Excluded.	On 31st March 1891.	On 1st April 1890	Added	Excluded	On 31st March 1891.		
1	North Thána	2,210	5	...	2,215	10,566	5,294		15,860	715	
2	South Thana	453	14	21	446	6,995	1,058	...	8,053	1,277	
3	East Khándesh	.	.		...	13,317	2,532	...	15,849	348	
4	West Khandesh	43	..	1	42	19,642	1,288		20,930	869	
5	Násik				...	6,238	1,950	...	8,188	2,110	
6	Ahmednágar	142		...	142	8,553	2,545		11,008	1,509	
7	Poona			.	.	37,385	2,552	...	39,937	1,242	
8	Sátára .	2,758	436		3,194	10,125	13,161	...	114,786	457	
9	Sholápur				...	27,813	31 617	...	59,430	1,021	
10	Surat	..	.	...	...	915	120	29	1,006	8	
11	Panch Mahals	57	56	...	113	434	146	131	449	210	
	Total	5,663	511	22	6,152	233,483	62,263	160	295,566	9,766	
	Total for 1889-90 ...	5,463	227	27	5,663	197,902	35,710	189	233,483	11,056	

9.—EARLY THINNING, REMOVAL OF INFERIOR SPECIES, CUTTING CREEPERS, &c.

205. The work of eradication of prickly pear (*Opuntia dillenii*) and that of cutting creepers and noxious growth from within forest limits was performed

in all the divisions in the Northern Circle, with the exception of Surat and Panch Mahâls, by forest guards in the course of their patrolling of the forests. In addition to the above the eradication of prickly pear by hired labour was also undertaken in the divisions named below, at a total cost of Rs. 1199-12-6 ;—

Division	Amount spent	Remarks.
	Rs. a. p.	
East Khándesh	964 0 0	Cost of bill-hooks 71
Násik	79 13 6	Cost of eradicating prickly pear
Ahmednagar	238 0 0	Do. do.
Poona	765 15 0	Do. do
Sátára	19 12 0	Do. do.
Total ..	1,199 12 6	

10.—EXPERIMENTS WITH EXOTIC TREES.

206. The cultivation of the date and casuarina continued in the North Thána Division. The latter shows good results, and is a serviceable tree on the coast, sand-hills and elsewhere, but has a disappointing peculiarity in some cases of attaining a height of some 20—30 feet, and then suddenly dying off, without any apparent cause, sporadically.

207. Experiments with Gulf date-palms, seeds of which were sown and watered carefully at different places in the South Thána Division, show that the tree will grow in Thána. Some young seedlings two years old have attained the height of about a foot in Mokháda; their progress is being carefully watched, but it remains to be seen whether the trees will continue to prosper and produce fruit.

208. In the East Khándesh Division there is nothing of importance to record under this head except that the Divi-Divi trees planted many years ago in the Padmálaya block continued to thrive, and it was noticed that a few of them have seeded this year.

209. In the West Khándesh Division there were some experiments made with the seed of Indigo fera pauciflora or *jhil*, which by the way is a common weed in Taloda Plain reserve, where it is called "Guli". The seed was distributed among the Range Forest Officers, and apparently only germinated where there were regular nurseries.

210. In the Násik Division no new experiments were attempted during the year. The Egyptian date-palms have not flourished at all, but the Mahogany seedlings in the Divisional Forest Officer's garden are growing vigorously.

211. In the Poona Division date-palms were tried on a small scale in all ranges, but without marked success. This species apparently requires care in its earlier stages, and this can only exceptionally be given to it by guards who have large areas to patrol. A few plants of Nelumbium pauce folium in the compound of the Range Office of Bhimthadi still exist in pots but are not thriving.

212. In the Sátára Division the date-plants sown in 1888-89 have not made so much progress as in former years, and the Range Forest Officer, Koregaon, reports that those in the Padli plantation which were the most flourishing and growing under circumstances of soil, climate and water, the most resembling those of their native habitat, are dying off. The Inga dulcis appears to thrive where the soil is good and where there is plenty of sub-soil moisture, or where it can be irrigated, but is never likely to become a forest tree in the Deccan. Experiments were ordered with jhil, but the result is again a failure, though the seeds were carefully sown in nurseries and watered; very little of the seed germinated, and most of those which did, died off almost before the end of the rains, leaving

a few weedy plants from two inches to a foot high as the results of a good deal of labour and expenditure.

213. In the Sholápur Division the date-palms resulting from seed received from the North Thána Division in 1888, and sown during the rains of 1889-90, continued to do well. The Egyptian date-seed, received in the early part of the year and sown during the last rains in pots, germinated and the plants are continuing to do well. Of former experiments, the Pithecolobium saman, Inga-dulcis and Bastard cedar are thriving, so also Bsheda and Mohura plants.

214. In the Surat Division the patches of jhil seeds, Indigo fera parcifolia, sent for trial in sandy soil, was distributed amongst the Range Forest Officers of Bulsár and Chikhli. A few plants have come out on the bank of the Ambika in the Saraia reserves. The seeds sown have germinated profusely and formed into good-sized shrubs, and they have even seeded, which shows that they have well established themselves. Subsequent observations have however brought to light the fact that this plant is not an exotic in Bulsár, for it is indigenous, and is to be seen growing wild as a stunted shrub along the sea side at Tithal and other places. Experiments were also made with the seeds of Divi-Divi Cæsalpinia Coriaria in Bulsár and Mándvi ranges. In the latter they were reported to have failed, but those sown in the former have germinated and with watering during the hot weather, have grown up into vigorous plants 2 to 4 feet in height.

215. In the Panch Maháls Division the date and sandal-wood plants continue to grow, the former very slowly, the latter rapidly. The results of jhil seed sown have been discouraging, none of the plants lasting over the cold weather.

216. In the Ahmednagar Division a bag of jhil seeds was received and sown in the several ranges, but the experiment met with no success as the seeds failed to germinate.

11.—COMMUNICATIONS AND BUILDINGS.

(*a*).—Roads and Bridges.

217. Roads and Bridges were constructed and repaired at the cost of the Forest Department during the year in the following divisions :—

South Thána.—A small expenditure of Rs. 40 was incurred by the Forest Department in repairing a road and in providing a rough bridge of logs over the Vaitarna.

West Khándesh.—A small sum of Rs. 20 was expended in improving a cart track to facilitate the transport of timber from the coupes.

Ahmednagar.—The road leading to Jawale-Baleshwar in the Sangamner Range was repaired during the year at a cost of Rs. 47-2-6.

Sátára.—A sum of Rs. 93-12 was spent in repairs to the road from Karád to Taruk, and a sum of Rs. 42-14 on the road from Pátan to Dhamni for the purpose of facilitating the extraction of the teak cut.

Surat.—The usual annual repair to the Dáng Road from Waghai to Dhura was undertaken at a cost of Rs. 282-8-3.

218. The following is a brief sketch of the new works and repairs to existing roads, &c., that were undertaken by the Public Works Department, at the expense of the Provincial Services Budget, the original projects having been undertaken either at the instance of, or with the supporting opinion of, the Forest Department.

Thána District.

Dáhánu-Jawhár Road.—Total expenditure incurred was Rs. 18,357 during the year, making Rs. 1,96,829 up to date.

Váda-Shirghát Road.—A sum of Rs. 49,557 has been spent on it, making a total expenditure of Rs. 1,30,039, out of the sanctioned cost of Rs. 1,44,645.

Bhiwndi Váda-Road.—Expenditure during the year was Rs. 2,097, making a total expenditure up to date Rs. 1,40,847.

Chahada Khind-Váda Road.—Rs. 19,700 were spent during the year. The total expenditure is Rs. 43,892.

Kalyán-Dhysar Road.—Rs. 7,242 were spent during the year upon it. The total expenditure is Rs. 9,418.

Khándesh District.

Road through Dángs.—As regards this the line down the Jakrai Bári has been surveyed, and a project for this, the most urgently required part of the Dáng road, is now in course of preparation, and will shortly be submitted to Government with a view to work being started on it by February next.

The survey for the *Taloda Nandurbár Road* was completed, and the project is now in hand. It includes of course the construction of easy approaches to the river Tápti on either side. Government in their Resolution No. 386 C. W—1521, dated 25th August 1890, have sanctioned the estimate amounting to Rs. 1,500 for the survey of a line of road from Wársa, Táluka Pimpalner, to Waghai in the Dángs.

Ahmednagar District.

Randhe-Samrad Road.—The length of the road is 9 miles. With the exception of side drains and widening the road in certain places and approach works to streams, the rest of the road is nearly completed and ready for traffic.

Jamgaon-Kalol Road.—This also forms part of the roads for opening out the hilly country in the west, and connects the two important towns of Rajur and Kalol. It is 10 miles in length and is now open for traffic.

Málegaon-Ambát Road.—The road is about 11 miles in length, and passes over the Nanasi Ghát and some very hilly country. The work has been completed during the year.

Poona District.

Ghoda-Ambegaon Road.—This has been continued.

Sátára District.

Waduz-Pusegaon Road.—It is 12 miles in length. This work, which has been under construction for several years past, was completed and opened throughout to traffic during the year under report. The expenditure during the year was Rs. 2,977, and the total expenditure to the end of the year is Rs. 27,167 against a sanctioned estimate of Rs. 30,851.

A feeder road from the táluka town of Tásgaon to the Southern Marátha Railway at Ashta Road station was commenced during the year.

Widening and projecting the Shirgaon Ghát Road—This Ghát is on the Wái-Wathar local road. The estimated cost of the work was Rs. 6,994, to which Government contributed from Provincial Funds a sum of Rs. 3,500. The expenditure during the year was Rs. 6,123.

(*b*).— Buildings.

219. The following statement will show in detail the works sanctioned during the year from the discretionary grant of Rs. 3,000 placed at the disposal of the Conservator of Forests, N. C., under the orders contained in Government Resolution No. 210 A.—835 of the 28th April 1890 —

No.	Executive Officer.	Name and locality of works.	Amount sanctioned.
			Rs.
1	Executive Engineer, Poona ...	For providing a record-shelf to the Forest Ranger's office at Ghoda	7
2	Do Do. ...	For providing a new floor in the office of the Forest Ranger at Poona ...	83
3	Do. Násik ...	For converting one of the two ráyats' sheds at the Mámlatdár's kacheri at Dindori into a Range Forest Office ...	261
4	Do. Kaira and Panch Mahás	For providing a teak-wood ceiling to the Range Forest Office at Halol ...	71
5	Do Ahmednagar	For replacing a window in the Range Forest Office at Kopargaon	84
6	Do Sholápur ...	For raising the west side wall of verandah of the Forest Ranger's office at Pandharpur .	11
7	Do. Khandesh ..	For providing a concrete floor to the Range Forest Officer's room, attached to the Mámlatdar's kacheri at Shahada	41
8	Do. Surat and Broach	For providing certain additions and alterations to divisional Forest Office in the castle at Surat	100
		Total ...	658

220. The following additional works have been undertaken by the Public Works Department during the year:—

In the West Khándesh Division a room 16′ × 16′ for Forest Office at Sháhádа is provided in the Mámlatdár's kacheri there. The construction of an office and store-room for the Range Forest Officer at Sindkheda was sanctioned in Government Resolution No. 288-C.W.—1115 of the 11th June 1890 and was completed during the year.

In the Ahmednagar Division the following stations have been constructed:—

1 Forest Station at Koltemba, Akola Range.
2 do. at Shirpunji do.
3 do. at Tale do.
4 do. at Phopsandi do.

In the Poona Division a seed-room for the Forest Office in the City Mámlatdár's kacheri at Poona has been constructed at a cost of Rs. 1,459—*vide* Government Resolution No. 311-C.W.—1191 of 23rd June 1890.

In the Sátára Division a room for the Range Forest Office at Korogaon in the new Mámlatdár's kacheri has been constructed.

The construction of an office for the Range Forest Officer at Bárs in the Sholápur Division was sanctioned under Government Resolution No. 558-C.W.—2139 of 6th December 1890, but it is not yet completed.

221. The following statement will exhibit the expenditure incurred by the Divisional Forest Officers in the Northern Circle in building temporary depôt-houses, forest guards' huts, and in repairing the existing forest guards' huts and forest posts, &c:—

Division.	Amount.
	Rs. a. p.
North Thána	471 11 0
South Thána	345 14 6
East Khándesh	300 11 0
West Khándesh	818 12 8
Ahmednagar	3 0 0
Násik	401 15 0
Poona	110 15 9
Sátára	151 6 6
Sholápur	8 11 3
Surat	179 7 2
Panch Mahás	252 9 2
Total ...	3,045 2 0

CHAPTER IV.

OUTTURN AND WORKING.

I.—DEPARTMENTAL OPERATIONS.

(1).—Timber.

222. The following statement shows the outturn, in cubic feet, of the timber exploited from the forests by Government agency, with the cost incurred and the revenue realised, during the year 1890-91, as compared with the outturn, cost and receipts of the preceding year :—

Division.	1889-90.					1890-91.				
	Timber in the rough ; logs.	Timber in the rough ; poles.	Miscellaneous.	Cost.	Receipts.	Timber in the rough ; logs.	Timber in the rough ; poles.	Miscellaneous.	Cost.	Receipts.
	C. ft.	C. ft.	C. ft.	Rs.	Rs.	C. ft.	C. ft.	C. ft.	Rs.	Rs.
North Thána ..	...	10,206	...	457	2,449	...	1,788	...	204	213
South Thána ...	...	41,868	...	6,558	5,522	...	58,824	...	1,714	8,686
East Khándesh ..	77	19,700	...	1,078	9,585	...	21,300	...	1,455	13,947
West Khándesh ...	...	50,489	1,983	2,844	33,366	28,768	23,456	29,073	3,296	36,376
Násik	78,988	...	...	472	4,140	46,066	...	...	348	2,667
Ahmednagar ...	...	114,882	308	1,442	6,967	...	179,156	319	1,627	9,509
Poona	97,547	34,738	...	3,191	25,596	...	51,678	...	3,369	26,012
Sátára	...	33,452	...	1,892	14,912	...	21,060	...	1,385	8,189
Sholápur	1,979	10	...	21	271	1,310	220	...	24	361
Surat	81,066	220,146	849	11,535	31,522	65,850	58,514	...	31,305	54,949
Panch Maháls ...	5,348	504	1,949	263	441	13,292	4,368	8,594	1,340	3,238
Total ...	265,005	525,995	5,089	29,753	1,34,771	155,286	420,364	37,986	46,067	1,64,147

223. The departmental operations in the two forest divisions of Thána were limited to the unsold coupes of the year, which were utilised to meet the wants of the people to whom privileges have been granted. In paragraph 13 of Government Resolution No. 650 of 26th January 1891, and in paragraph 18 of Government Resolution No. 1899 of the 13th March 1891, it has been ruled that, in the interest of the ráb and firewood supply of the people, all the coupes of the year in settled forests must be worked either by contractors, or departmentally. (In unsettled forests people still cut at large.) This order, which came out too late to be applied during the year, must necessarily result in some loss of revenue, when the coupe is cut not for market demand, but in order that its brushwood may be made available to the people. The market is now thoroughly *en rapport* with the forests, the coupes which remain unsold when the general sale of the year is held failing to attract purchasers, are those which either contain inferior timber, or are comparatively inaccessible, and are practically more costly to work than the coupes closer to railway stations and bandars and which are also commanded by cart tracks ; these unsold coupes may be taken to represent excess of supply, not so much over demand, because there is always a market in the districts above-ghâts reached by the Great Indian Peninsula Railway, in the country traversed by the Bombay Baroda and Central India Railway, in Káthiáwár, in the city of Bombay, &c., for timber from the Thána forests, as over working power and private enterprise in the wood trade. So long as the excess supply remains improving in the soil, until the markets increase or trade develope up to it, it is safe ; but once cut, there is danger of losing the cost of cutting and the material also through rot, fire, insects, theft, &c. Were it not for the privileged classes, a wise owner in the position of the State would be glad of an excuse to leave his timber on foot for a year or two more, as very little of it has yet attained its full development.

224. In the North Thána Division no such fellings were made, but coupes were opened as depôts of standing ráb materials and of firewood, to be had for the trouble of cutting and taking, and of timber and firewood at fixed rates. Forest villagers well understood that they might enter the coupes and remove anything under six inches girth, except reserved trees. This attempt however to assist the people in their ráb, &c., supplies did not meet with success, for the people scarcely

took any appreciable advantage of the arrangement. The reason given by the people themselves was that it was too much trouble, though the coupes were only a mile or so from the fields. As a matter of fact other sources of supply were available to them. Occupied varkas lands provide rab materials and fire-wood, and small timber can be obtained much more advantageously from the professional timber-dealer.

225. In the South Thána Division, 9 such unsold coupes were opened, of which 2 were unused, and the others used to a surprisingly small extent. The departmental fellings made in the previous year, with the express object of selling in small lots for local conveniences, were an entire failure, and the material had to be got rid of this year at a sacrifice. Five of this year's unsold coupes were very carefully chosen with regard to their situation, &c., and the departmental working of them resulted in a profit of Rs. 8,371. The rest of the increase shown in the table is due to the sale of the material in 4 out of 7 coupes unsold in the preceding year. The material of the remaining 3 could not be sold, and is now practically worthless.

226. The results in the two Khándesh divisions were encouraging, not only owing to unprecedented demand for the material, but also because the sales were also held very early in the season, when timber from foreign and Mewás States and málki numbers and inám lands had not come into the market. The fellings in the West Khandesh Division were mostly confined to the clearing of Bhil settlements and other cultivated lands. In the divisions of Ahmednagar, Poona and Sholápur, the results of the departmental fellings were satisfactory, but those in the Násik and Sátára divisions show a decrease in receipts, as teak trees on occupied survey numbers were not felled to the extent proposed.

227. In the two Gujarát divisions of Surat and Panch Mahás the increase in receipts is due to the sale of timber on hand from last year, as also to better prices at auction sales. The operations under I-A on the whole are satisfactory, and show a net increase of Rs. 29,376 over the figures of the past year.

(2).— Firewood.

228. The details of departmental fellings of firewood, which include the loppings of teak and other trees cut departmentally, in the several divisions of the Northern Circle during the year, are given in the following statement, showing the outturn in cubic feet, together with receipts and expenditure, as compared with the results of the previous year : -

No	Division.	1889-90			1890-91		
		Firewood.	Cost.	Receipts	Firewood	Cost	Receipts
		Cubic Feet	Rs.	Rs.	Cubic Feet	Rs.	Rs.
1	North Thána	3,225	29	402	6,675	58	281
2	South Thána	51,375	95	1,762	70,237	126	523
3	East Khándesh ..	443,340	2 713	12,249	302,760	2,078	11,868
4	West Khándesh ...	245,171	1,223	7,246	146,135	2,005	2,986
5	Násik	183,060	976	3 871	251,829	1,119	3,831
6	Ahmednagar	168,160	281	1,216	19,223	24	759
7	Poona	268,272	2,573	11,094	206,208	1,271	4,393
8	Sátára	123,275	1,101	2,265	69,798	781	2,210
9	Sholápur	24,184	166	1,767	17,719	141	1,140
10	Surat	3,111	..	160	...	...	...
11	Panch Mahals	49 711	187	2,892	278,974	...	3,396
	Total ..	1,562,874	9,647	44,930	1,375,885	7,608	31,387

229. No departmental fellings of firewood were undertaken in the two Thána divisions, except as included in the coupes mentioned above. The decrease in the East Khándesh Division is inconsiderable; but that in the Western

Division is due to the greater part of the wood not having been put up for sale until too late in the season, the fuel operations having been much impeded by the Dádargaon tank works absorbing local labour. This wood, however, will be sold as soon as the ginning mills demand a fresh supply. The decrease in the Násik Division calls for no remarks. The firewood fellings in the Ahmednagar Division were very considerably curtailed owing to the introduction of the system of selling firewood on foot in specially marked out compartments. The decrease in outturn and receipts of the Poona Division is attributed to a certain number of coupes having been sold standing instead of being worked departmentally. The operations in the Sátára and Sholápur divisions call for no explanations. In the Surat Division no firewood fellings were undertaken during the year. The increase in the outturn and receipts in the Panch Mahál Division is due to a more extended scale of operations undertaken owing to a considerable increase in the demand for firewood, especially in the eastern mahál.

(3).—Bámboos.

230. No departmental operations under this head were undertaken during the year in any of the divisions of the Northern Circle, except Ahmednagar, where a small revenue of Rs. 13 was realised from thinnings made in the bámboo clumps in the Shrigonda Range of that division at a cost of Rs. 6.

(4).—Other Minor Produce.

231. The departmental operation under this sub-head was the collection of hirda, the fruit of the Terminalia chebula, in the divisions of South Thána, Násik, Ahmednagar, Poona and Sátára, and the following statement will show the collections and disposals of the year under report as compared with those of the preceding year:—

No	Division	Yield		Cost		Receipts		Remarks
		1889-90.	1890-91.	1889-90	1890-91	1889-90	1890-91	
		K. m. s	K. m. s	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
1	North Thána	68 23 4	35 0 0	495 14 6		1 42 7 6	550 0 0	Credited to Ile but included in the statement to show the total amount realised from hirda
2	South Thána	83 23 5	71 23 8	610 2 8	501 15 2	1 656 9 0	2,029 10 10	
3	Násik	47 12 7	49 2 0	10 12 6	28 11 3		1,453 11 8	Do do
4	Ahmednagar	182 17 10	102 13 3	787 6 0	758 14 3	1 926 0 5	3,350 13 2	
5	Poona	1 8 18 8	1 1 2 13	2 24 4 6		2,197 7 8	2,914 0 0	Do do.
6	Sátára	409 9 4	675 1 10	2 820 9 1	4 418 11 11	10 140 8 7	16,308 15 2	
	Total	890 20 10	1 049 15 6	5,269 1 4	6 703 6 0	21,202 14 4	26,607 2 10	

232. In the North Thána Division the collection of hirda was not undertaken departmentally, but the right of collecting the fruit was farmed out for Rs. 550 only, the crop being scanty, about half that of the preceding year, which itself was a poor one. It is the wild tribes who are employed in collecting hirda, whether the collection is made departmentally or by contract. Departmental collection is open to little check and much abuse, but that system is probably better for the tribes. In the South Thána Division, hirda was collected departmentally as usual. The crop of the year was poor, and consequently the quantity collected was less than in the previous year. However, the price realised at auction sales was the best hitherto known in the South Thána Division, viz., Rs. 28¼ per khandi of 784 lbs.; and therefore, with even less quantity, the receipts have gone up from Rs. 1,656 to Rs. 2,029.

233. In the Násik Division a small quantity was collected departmentally in the Kalvan Range at a cost of Rs. 3, and the collected fruit was kept for sowing. In other ranges of the division the collection was made on the share system as usual and the amount realised was Rs. 1,454. The expenditure of Rs. 25 incurred was on account of watching and storing the fruits. In the Ahmednagar Division the quantity collected was less than in the preceding year owing to poorness of the crop, but the deficit in yield was more than counter-

balanced by the higher rate per khandi realised at auction sales, being Rs. 33 against Rs. 26 in 1889-90. In the Poona Division, the hirda was collected on the share system as in the year before except in the Haveli Range, where 3 khandis and 16 lbs. were collected by forest guards. The results of the departmental collection of hirda in the Sátára Division were more satisfactory than in 1889-90. The crop, though promising in its early stage, was greatly reduced by wind and heavy rains. The rate realised at auction sales was the highest on record in that division, being Rs. 29 per Bombay khandi against Rs. 24 in the previous year.

234. The results of the departmental collection of hirda on the whole were satisfactory, the poor crops of the year being more than sufficiently balanced by the higher rates that ruled the market.

235. The right of collecting shikakai, the pod of Acacia concinna, was again sold by auction in the Sátára Division and realised Rs. 772 against Rs. 576 in the previous year.

II.—REMOVAL OF PRODUCE BY PURCHASERS.

(1).—Timber.

236. The outturn, in cubic feet, of timber removed from the forests of the several divisions of the Northern Circle by consumers and purchasers, at their own expense, is given in the following statement with the amounts realised, as compared with the results of the preceding year :—

No.	Division	1889-90.				1890-91			
		Timber in the rough ; logs.	Timber in the rough ; poles.	Miscellaneous.	Amount realized.	Timber in the rough ; logs.	Timber in the rough ; poles.	Miscellaneous.	Amount realized.
		C. ft.	C. ft.	C. ft.	Rs.	C. ft.	C. ft.	C. ft.	Rs.
1	North Thána	...	872,187	...	2,17,319	...	1,125,198	...	2,69,774
2	South Thána		1,379,235		1,67,518		1,610,172		1,19,251
3	East Khándesh	...	...	199,280	4,784	242,700		...	4,929
4	West Khándesh			509,584	11,040			123,888	10,710
5	Nasik ..	244,204	...		13,439	387,169	.		16,817
6	Ahmednagar .		.	6,740	189	...		1,045	243
7	Poona		30,962	.	797	97,645	93		902
8	Sátára .	7,179	1,204		2,679	1,391	473	...	778
9	Sholápur ..	..		154	60			130	124
10	Surat	33,892		27,519	24,343	34,899	1,883	281,700	37,786
11	Panch Maháls	248,906	50,754	90,094	47,848	218,202	50,787	61,186	47,247
	Total .	534,181	2,743,282	833,371	4,90,016	982,006	2,788,906	467,948	5,07,260

237. In the North Thána Division the coupes, which had been laid out in each block of the Working Plans series by the surveyors of the Working Plans Branch, numbering in all 154, were offered for sale and their sale was attended with marked success. Before offering the coupes for sale, standards had been carefully selected and reserved in them, to act as seed-bearers, and to prevent a too great and sudden exposure of the ground to the heat of the sun and to the weather generally ; the inclination of the slope upon which trees are standing, and the aspect of the coupe whether exposed to, or protected from, the direct beating force of the monsoon storms, are two of the most important factors for determining the intensity of the selection and reservation of standards. Of the coupes thus laid out for sale 129 were actually sold and exploited and 25 remained unsold, either because there was no demand for them at all, or because the bids offered were too low to be accepted. These coupes are in the more distant forests, and also in forests from which the difficulty of removing timber, &c., is physically great. The results of the year are even better than those of the preceding year. In the South Thána Division the coupes fetched low prices owing in some cases to the material being poor, and in others, to some extent, to the location of coupes for export purposes being inconvenient. 134 coupes were offered for sale, but 84 of them were actually sold, and 50 remained unsold. The growth in some of these is very poor at present, and if forestry

were the only governing consideration, several of these coupes would not be touched by the axe for years to come, as the only felling they can have is "improvement" by removal of bad growth, here and there. Messrs. Glover and Co., the contractors of the Tánsa Dam, continued to indent upon the Forest Department for coupes to meet the wants of their work-people: and 6 coupes were accordingly sold to them for Rs. 5,016. The dam work has now been completed, and the operations of the firm at Tánsa have ceased. In like manner 18 coupes were sold for Rs. 14,691, to Messrs. Walsh, Lovett, Mitchell and Co., the contractors of the Tánsa duct line, which is still in progress.

238. In no other divisions of the Northern Circle except Poona, where a small attempt was not very successful, has the system of selling timber, standing, been introduced, but it will shortly be introduced *pari passu* with the Working Plans of the forests. The increase in realizations from timber removed under the pass system by purchasers in the East Khándesh Division calls for no remarks. In the West Khándesh Division there was again a falling off under this head, the realizations being Rs. 10,110 against Rs. 11,040 in the previous year. This decrease, as the Divisional Forest Officer states, is owing to Bhils finding agricultural pursuits more paying; and it is an argument in favour of reconsidering that privilege, which allows Bhils to exploit for barter and sale promiscuously all but a few kinds of timber.

239. The decrease in Sátára is due to the fact that the fellings outside the demarcation line were impeded by the question of proprietary right over teak trees upon occupied lands, which was under the consideration of Government for the greater part of the year.

240. In the Surat Division prices ruled higher and show a general improvement, but there is still much to be done in circumventing trade combinations.

241. The following table exhibits the quantity of firewood removed by purchasers, either by contract, or on permits issued on payment of fees in advance at their own cost, together with the revenue so realised, as compared with the previous year. The results are extremely favourable:—

Division	Firewood in cubic feet		Receipts		Remarks.
	1889-90	1890-91	1889-90	1890-91.	
			Rs.	Rs.	
North Thána ..	1,468,966	1,517,820	7,855	5,173	
South Thana	905,787	698,763	1,354	1,722	
East Khándesh ..	1,665,930	1,960,560	8,400	10,831	
West Khándesh ..	456,950	100,305	3,119	3,346	
Násik ..	62,697	51,336	1,474	1,671	
Ahmednager .. .	13,335	45,004	743	2,966	
Poona	910	19,207	2,415	6,150	
Sátára .. .	12,185	7,837	395	284	
Sholapur	1,280	1,170	127	830	
Surat . .	17,087	.	296	254	
Panch Mahals	117,304	291,653	949	1,992	
Total	4,222,431	4,693,155	27,127	35,219	

242. Bámboos were removed by purchasers and consumers from the forests of all divisions of the Northern Circle except Sholápur (where there are none), either by contract or on the permit system, in head-loads, cart-loads, &c., and the following table compares the results of the year with those of the previous one. The comparison is again extremely favourable:—

Division.	1889-90.				1890-91.			
	Bamboos removed.			Amount realized.	Bamboos removed.			Amount realized.
	Cart-loads.	Head-loads.	Number.		Cart-loads.	Head-loads.	Number.	
				Rs.				Rs.
North Thána	7,816	...	196,717	7,294	...	...	111,419	9,294
South Thána	338	3,295	187,737	4,196	377	3,018	202,721	5,610
East Khándesh	...	..	255,175	3,638	...	...	380,000	4,660
West Khándesh	15	...	235,908	2,882	...	..	153,270	1,755
Násik	65	849	145,592	3,838	151	895	203,838	5,042
Ahmednagar	...	...	26,195	263	...	...	28,087	287
Poona	...	..	136,821	940	...	...	1,04,134	1,102
Sátára	...	500	2,826	241	...	3,096	8,200	708
Surat	..	2,421	446,807	8,901	...	..	4,83,906	10,949
Panch Mahála	...	...	54,183	703	56	4	1,27,426	1,607
Total ...	8,234	7,065	1,687,981	32,896	584	7,013	1,803,001	41,074

243. The following statement exhibits the realisations from minor produce, such as ápta and tembhurni leaves, tarwad and shembi bark, honey, wax, fruits, stones, earth, kárvi, &c., removed from the forests of the several divisions of the Northern Circle by consumers and purchasers, as compared with the results of the last year. In North Thána the loss is principally on hirda; in South Thána, on the sales of leaves and other minor produce; in Sátára, on aloes, tarwad and brushwood sales; in Násik, on hirda and rosha-oil stills, and in Sholápur, on the failure of the tarwad sales: the gain is due, in Ahmednagar, to outstandings from the previous year; in Poona, to the inclusion of hirda revenue; in Surat and the Panch Mahála, to the resumption of mowra flowers as a revenue-producing source:—

Division.	Amount, 1889-90.	Amount, 1890-91.	Remarks.
	Rs.	Rs.	
North Thána	4,953	3,655	
South Thána	3,137	1,946	
East Khándesh	901	964	
West Khándesh	12,459	12,607	
Násik	4,525	3,394	
Ahmednagar	1,170	1,547	
Poona	1,994	4,470	
Sátára	3,063	2,669	
Sholápur	321	95	
Surat	1,038	1,400	
Panch Mahála	159	1,730	
Total ...	33,720	34,477	

III.—FREE GRANTS OF FOREST PRODUCE.

244. The following is a statement showing the free grants of timber made during the last four years by Revenue officers (almost exclusively) from the forests of the Northern Circle:—

Division.	1887-88.	1888-89.	1889-90.	1890-91.
	Rs.	Rs.	Rs.	Rs.
North Thána	44	340	73	1,633
South Thána	1,464	1,166	168	3,040
East Khándesh	16	.....	.....	.....
West Khándesh	651	159	45	142
Násik	521	368	267	217
Ahmednagar	34	4	297	10
Poona	95	817	539	519
Sátára	190	85	354	699
Sholápur	.....	.....	.....	.....
Surat	36	194	.....	790
Panch Mahála	998	307	193	1,547
Total ...	4,049	3,440	1,936	8,606

IV.—PRODUCE REMOVED BY RIGHT-HOLDERS AND UNDER PRIVILEGES.

245. No rights, save of way and access to water, have been recorded by the Forest Settlement Officers in favour of persons or communities in respect of any of the forests of the Northern Circle enquired into during the year; if any such rights were found to be existing they have been commuted. But the privilege-holders fully take the place of any possible right-holders and the restrictions on conservancy are just as damaging in deference to privilege-holders as they might be when dictated by the convenience of right-holders.

246. The value of the produce removed under privileges is very considerable indeed, particularly in those forests where people may lop and remove anything except a few reserved species. In the absence of any means of estimating the value of the timber, firewood, bamboos, tahál, grass, fruits, flowers, gums, &c., &c., &c., brought out free of charge by forest villagers, wild tribes, and others for use, barter or sale, it is impossible to give the total, but it may be guessed that the latter would require six or seven figures to represent it. In grazing alone a large revenue is sacrificed, for, we find that 696,339 animals are stated to have enjoyed free grazing during the year and at the low Government rate of 4 annas per head this concession represents Rs 1,74,085; but if the charge for grazing in forests were to be as heavy as villagers charge cattle-owners for grazing on their lands, a very large sum would appear. If we add the waste which is a necessary accompaniment of unlimited and unsupervisable liberty, and the damage by fire and otherwise, which is also a consequence, we may certainly double our total and arrive at some remarkable figures.

V.—IMPORTS AND EXPORTS OF FOREST PRODUCE.

247. The following statement will show the imports and exports in the North Thána Division, as compared with the results of the past year:—

Range	Imports				Exports					
	1889-90.		1890-91.		1889-90			1890-91.		
	Timber poles	Firewood	Timber poles.	Firewood.	Timber poles.	Firewood.	Bamboos	Timber poles	Firewood.	Bamboos
	C. ft	C. ft.	C ft	C. ft	C. ft.	C. ft	Number	C ft	C. ft.	Number
Salsettee ...		..	1,63,500	22,125		8,925	.	166,371	143,736	123,381
Rasecin ...	..	.	..	...	57,574	339,463			...	...
Mahim .	..	.	..	.	156,981	425,063	..	189,408	506,064	60,000
Dahánu	..	..		...	702,915	359,737	407,559	458,313	245,825	43,500
Umbargaon ..	..	9,437	...	...	..	9,225	..	142,470	53,772	42,000
Váda .	...	...	..	...	86,207	45,412	...	205,845	178,925	...
Total		9,437	1,63,500	22,125	953,677	1,187,825	407,559	1,162,407	1,128,322	268,881

248. In West Khándesh the duty on foreign timber has again shrunk as shown below:

1887-88.	1888-89.	1889-90	1890-91.
Rs.	Rs.	Rs.	Rs.
16,065	18,307	15,050	13,853

249. The Divisional Officer thinks this is due partly to the foreign States of origin shutting the stable door, but principally to the fact that the horse is already stolen, which being interpreted means that they are now taking precautions to protect what little is left of their forests. A good deal of timber comes into Khándesh and Násik from the Dángs and the six Mowás States under the Khándesh Agency. The rest is from Bárwáni, Baroda, Indore and the eight remaining Mowás States. The imports of timber, firewood, charcoal, bamboos, &c., are mostly consumed in the division, but a little goes further. A little teak is exported down the Tápti, and the rosha-oil is all sent to Bombay, whence the "motia" or better sort is exported to Europe as lemon-grass-oil.

250. East Khándesh imports from the Central Provinces, Berár, and the Nizám's forests and even from the Thána forests. The duty on imported timber, &c., from foreign States this year was Rs. 14,625 against Rs. 12,386 the year previous. In general each division imports from several others, but precise figures are not available either for internal transfers or for external exports, &c.

CHAPTER V.

FINANCIAL RESULTS.

251. The following statement will give a comparison between the financial results of 1889-90 and of the year under report:—

Year.	Receipts.	Expenditure.			Net Revenue.
		A.—Conservancy and Works.	B.—Establishment.	Total.	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1889-90	11,85,540 5 4	2,18,518 11 3	4,86,838 7 10	7,05,357 3 1	4,80,183 2 3
1890-91	12,57,501 15 3	2,47,857 10 7	4,87,846 15 8	7,35,704 10 3	5,21,797 5 0
Increase ...	71,961 9 11	29,338 15 4	1,008 7 10	30,347 7 2	41,614 2 9
Decrease ...	.....	.....	.....	.....	.....

252. It will be seen that the receipts are much greater than of last year which produced the largest revenue on record in the Northern Circle; and that the net revenue of the year is Rs. 5,21,797 against Rs. 4,80,183 of the year before. This can only be regarded as very satisfactory.

253. It is a principle of forest management that forests should be worked so as to produce the highest possible revenue compatible with the augmentation of their productive powers to the highest degree attainable. This doctrine may not be accepted by every one, and it manifestly runs counter not infrequently to official sentiment, to which expression is sometimes given. But it should be remembered that an efficient maintenance of forest conservancy in Western India is absolutely essential to secure the comfort, prosperity and loyalty of the peasantry; for agriculture, which produces the food of the people, to be profitable in a country of fixed seasons with a long period of drought and a short time of heavy rainfall, is dependent entirely upon the mountains, hills, water sheds and drainage slopes being densely covered by trees so as to attract, arrest, store and distribute the moisture.

254. Forests should undoubtedly be treated on the same principle as that which is applied to money by a financier, who takes care of the capital and lives on the interest. To allow the people to cut and take from the forests, and to graze cattle at all times and at any time, here, there and everywhere, is a direct attack upon the capital, which causes its deterioration with ultimate destruction; while to give, free of charge, the products and the usufruct of forests, encourages waste, depreciates value, destroying respect, and tends to destruction, while, at the same time it sacrifices a source of revenue. In paying for what people take from forests they obtain the value of their money; the property is not theirs and the payment is not of the nature of a tax for which there is no direct, immediate and substantial return, appreciable to the disburser. The husbanding of the vegetation as part of the national wealth has often been urged by His Excellency Sir Richard Temple while Governor of this Presidency, "for the permanent supply of the timber and fuel markets, the improvement of climatic conditions as affecting the regularity and irregularity of the periodical rains, the retention of moisture on a land where aridity prevails for several months of the year." "From the mountains spring many rivers and streams, which provide crops with artificial irrigation when the natural supply is cut off, and so long as the vegetation is preserved, waters near the sources of the rivers are retained to feed the canals, but when the forests are destroyed the waters become exhausted or evaporated and then the canals are dry": These are strong reasons for preserving forests, and giving their proper money value to the produce obtained from forests.

255. The following statement gives the distribution of receipts among the several divisions compared with the receipts of 1889-90 :—

Division.	1889-90.	1890-91.	Increase.	Decrease.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Direction	19 3 0	... ...	.....	19 3 0
North Thána ...	2,67,025 4 10	3,05,473 6 3	38,448 1 5	.....
South Thána ...	1,99,819 12 7	1,53,716 2 8	.....	46,103 9 11
East Khándesh ...	97,968 13 7	1,17,333 7 6	19,364 9 11	.....
West Khándesh ..	1,66,853 8 0	1,64,872 7 3	.....	1,981 0 9
Násik	89,107 11 9	90,998 3 2	1,890 7 5	.....
Ahmednagar ...	42,358 14 11	55,412 12 1	13,053 13 2	... ..
Poona	97,961 7 1	99,197 15 3	1,236 8 2	.....
Sátára	75,858 5 4	70,664 3 6	.....	5,194 1 10
Sholápur	19,315 14 3	21,613 1 4	2,267 6 1	.....
Surat	68,094 1 11	1,11,419 15 0	43,325 13 1	....
Panch Mahála ..	61,127 4 1	66,799 4 3	5,672 0 2	.....
Working Plans ..	.....	0 14 0	0 14 0	.....
Total .	11,85,540 5 4	12,57,501 15 3	1,25,259 9 5	53,297 15 6

256. In the North Thána Division the beneficial result of the year has been most satisfactory. The revenue has been the highest ever obtained. The increase of Rs. 38,148-1-5 is due entirely to the improvement in the sales of coupes, concurrently with the more extended exploitation of the forests of the division, 19 more coupes containing 1,242 acres having been sold in excess of the previous year. The average price per acre realized during the year under report was similar to that of the preceding, *viz.*, Rs. 40·2, and the material removed by the purchasers amounted, on extremely tentative cultivations, to an average of 57 timber logs, 816 firewood logs per acre of coupe sold or to an average of 120 cubic feet of teak-timber, 52 cubic feet of junglewood timber and 234 cubic feet of firewood and charcoal per acre of coupe sold. The figures are based on the passes issued, and are therefore incomplete and not trustworthy.

257. In the East Khándesh Division the increase of Rs. 19,364-9-11 is due to unprecedented competition at auction sales of departmentally cut fuel and timber; possibly owing to the sales having been held early in the season, or to some cause indirectly affecting the market.

258. In the Násik Division the financial results of the year's working have been more satisfactory than those of the preceding year, inasmuch as both gross and net revenue are higher. The increase of Rs. 1,890-7-5 is due to fluctuations in the receipts from grass and grazing. The receipts from grazing fees went up under the new grazing rules. Better prices were also realized from the sale of bamboos and timber sold to contractors.

259. In the Ahmednagar Division the increase of Rs. 13,053-13-2 is mainly due to the better control of grazing in the forests under the new rules.

260. In the Poona Division no special reason can be assigned for the increase of Rs. 1,236.

261. In the Sholápur Division the increase of Rs. 2,267-6-1 is chiefly due ot the higher rates realized for timber, to larger wood sales and to better prices having been obtained by sales of grazing and grass.

262. In the Surat Division there is an increase of Rs. 43,325-13-1. The year under report has been a very prosperous one from a financial point of view. The gross receipts have been the highest during the last five years. The collections of outstanding due from the preceding year, and the recoveries in full of the several purchase amounts in respect of all the contracts given during the year, combined with the improvement in the selling rates of timber of all kinds, both in Mándvi and in the Dángs, together with a substantial increase in the revenue from bamboos, have all contributed to produce the high figure of the receipts recorded.

263. In the Panch Mahâls Division the increase of Rs. 5,672 is due to competition for standing teak at the large auctions held after the rains. There was also a satisfactory increase in the demand for firewood in the eastern mahâls, which may be expected to continue.

264. In the South Thâna Division there is a decrease of Rs. 46,103-9-11. The year under report unfortunately shows a considerable falling off in the amount of revenue realized compared with the preceding two years. One reason for this is to be found in the fact that the receipts of the previous years were abnormally large, owing to the sale of the timber on the bed of the Tânsa Lake for over one lâkh of rupees. It was hoped, however, that a more thorough exploitation of the forests of the district causing more coupes to be thrown upon the market would have counterbalanced this loss, but unfortunately the compensation did not come off, for the demand for coupes was not so brisk as hoped for, and several of them remained unsold. The prices realized by those sold did not fulfil expectations. A further explanation of the decreased revenue of this division during the year may perhaps be found in the prosperity of the other or north division of Thâna which has better timber and greater facilities of exploitation and which may have attracted some of the merchants who ordinarily bid for the South Thâna coupes.

265. In the West Khândesh Division there has been a decrease of Rs. 1,981. Last year's financial results were the best on record and remain so, but are closely pressed by the figures of this year. Had there not been a sudden drop towards the end of the season in the demand for timber and fuel, which affected the sales, the revenue would have been some Rs. 20,000 more than it was.

266. In the Sâtâra Division the decrease of Rs. 5,194 is chiefly due to an interruption of plans, so that a smaller amount of teak timber was cut from the forests owing to its having been expected that there would be larger quantities to cut from occupied survey numbers outside the demarcation line. But those latter fellings were hindered as previously explained, and bad prices prevailed in some of the ranges for what was cut. There was a considerable falling off in the grass revenue from sales of kuraus owing to continued rain in the western, and the drought in the eastern, ranges. There was also a smaller quantity of timber, firewood and other minor produce taken from the forests by purchasers.

267. The distribution of expenditure under "A.—Conservancy and Works" among the several divisions of the Northern Circle compared with that of the previous year is exhibited in the following statement:—

No.	Division.	1889-90.	1890-91.	Increase.	Decrease.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Direction	720 12 3	... ..	.	720 12 3
2	North Thâna	21,032 3 5	14,938 7 7	..	6,093 11 10
3	South Thâna	41,110 13 10	37,983 0 11	.	3,127 12 11
4	East Khândesh ..	9,003 3 6	11,487 8 8	2,484 3 2	... ..
5	West Khandesh ...	18,498 11 6	22,919 8 11	4,420 10 5	. ....
6	Nâsik	10,179 9 3	10,618 9 6	439 0 3	....
7	Ahmednagar ..	12,456 11 10	14,254 7 8	1,797 11 10	.....
8	Poona	30,403 1 3	44,851 1 11	14,448 0 8	.....
9	Sâtara	18,832 1 5	16,658 15 10	.. ..	2,173 1 7
10	Sholâpur	7,845 5 1	5,638 13 11	. ...	2,206 7 2
11	Surat . ..	28,565 3 4	48,295 9 2	19,730 5 10	. ...
12	Panch Mahâls ..	2,710 13 7	3,591 15 10	881 2 3	.....
13	Working Plans ...	17,159 14 0	16,619 6 8	... .	540 7 4
	Total ...	2,18,518 11 3	2,47,857 10 7	41,201 4 5	14,862 5 1

268. In the East Khândesh Division the increase of expenditure, *viz.*, Rs. 2,484, is due to the greater expansion of timber operations and larger payments to village officers on account of remuneration for collecting forest revenue. All the forest guards in the Sâtpuda ranges were provided with accommodation

in their respective beats, which explains the higher expenditure under VII. Under VIII the increase is due to the following causes:—

(*a*) Larger expenditure on fire-tracing.

(*b*) Cost of bábul seed imported from Sind.

(*c*) Payment of Rs. 1,703 for acquiring occupied land.

The larger number of forest offences detected during the year necessitated the giving of more rewards to informers, which explains the increase under A.-IX.

269. In the West Khándesh Division the increase of Rs. 4,420 under "A.—Conservancy and Works" is due to the extra establishment sanctioned for the Forest Settlement Office.

270. In the Násik Division the increase of Rs. 439 is due to the expenditure of larger sums on plantations, erection of boundary marks and eradication of prickly-pear.

271. In the Ahmednagar Division the increase of Rs. 1,797 is due to the unexpected larger expenditure on account of wire-fencing.

272. In the Poona Division the increase of Rs. 14,448 is mainly due to the large expenditure, *viz.*, Rs. 24,613, incurred on account of forest surveys.

273. In the Surat Division the large increase of Rs. 19,730 under "A.—Conservancy and Works" is accounted for by the large payments that were due to contractors and share-holders, for the work executed during the year 1889-90 having been adjusted during the year by the refund of Rs. 3,692 to Messrs. Dhanjibhai of Bulsár in respect of a cancelled dead-wood contract, and last but not the least by an extraordinary item of outlay of about Rs. 16,000 on the cartage of green teak of the Dáng forests to the newly established sale depôt at Wagrech.

274. In the Panch Maháls Division the increase of Rs. 881 is due to departmental operations being extended, to expenditure on the repair of Government buildings and on plantation works.

275. In the North Thána Division the decrease of Rs. 6,093 is due to the following causes:—

(*a*) Less land compensation having been paid.

(*b*) The desired quantity of seeds not having been obtainable.

(*c*) The expenditure on account of fire paths in Máhim and Umbargaon being less than was anticipated.

(*d*) Less expenditure on account of wire-fencing being incurred than anticipated.

276. In the South Thána Division the decrease of Rs. 3,127 in the expenditure under "A.—Conservancy and Works" is due to the debit of a smaller sum than was anticipated on account of survey operations, which were carried on during the year upon a smaller scale than that of the previous year.

277. In Sátára the decrease is accounted for by the interruption in the teak fellings, and by the inclusion, in the previous year, of a sum of Rs. 2,911 for survey work, while there is no similar debit this year.

278. In Sholápur the decrease is due to smaller expenditure on plantations, eradication of prickly-pear, &c.

279. In the Working Plans Division the saving is due to the absence of Mr. Fry on furlough.

280. The figures of expenditure under B.—Establishments, which show an increase of Rs. 1,008 over last year, are due to the insertion of a sum of Rs. 3,976 paid in Bombay to officers of other provinces, a sum entirely extraneous to the work of this Circle. The true figures for B.—Establishments would be Rs 4,83,871, and would show a decrease of Rs. 2,967.

CHAPTER VI.

GENERAL REMARKS.

281. At the commencement of the year the Conservator's camp was in the North Thána Division in the Sálsette Táluka, from whence he travelled through the Kalyán and Karjat ranges, examining forests, inspecting coupes and timber operations, the Divisional Forest Officer being in company; such of the office and records of the South Thána Division as were in camp were examined. And the Conservator then proceeded to the Satára District on the 27th April, and was at Lingmala up to the 4th May, and at Malcolmpeth from the 5th to 11th. The forests and the cultural and other operations in the forests of the Mahábaleshwar plateau were visited; and the Conservator had the pleasure of conducting His Excellency the Governor through a portion of the forests, over the coupe of the current season, and compartments which having served as coupes were then closed for reproduction; and leaving Mahábaleshvar on the 9th May, the Conservator went to Poona, handed over charge of his office to Mr. Wroughton, and proceeded upon three months' privilege leave to England on the 16th idem.

282. Mr. Wroughton visited the forests at the head waters of the Indráyani river and upon the Sakur-pathar, between the 19th and 31st May, and came to Poona with the office for the rainy season on the 1st June.

283. Mr. Shuttleworth rejoined from privilege leave on the 19th August, and leaving Poona on the 17th November, he encamped in the Bhima valley at Multhan and Rájegaon. The Divisional Forest Officers of Poona and of Working Plans were with him in camp; and the offices and records of these two divisions were examined. The bábul forests, to some portions of which a system of working plans had been applied, and which was then being extended to other similar forests were visited, and the treatment of these properties and general forest business also was discussed. The Conservator then crossed the Bhima river to the Sholápur District, encamping at Jinti, where Mr. Hornidge, the Divisional Forest Officer, met him, and he inspected the divisional office and records. From the Karmála Range the Conservator moved into the Ahmednagar District to Limpangaon, on the 1st December, where Mr. Wilkins, the Divisional Forest Officer, joined him, and the office and records of the division were examined, and several forests were inspected. From here the Conservator passed on to Yeola in the Násik Division and marched by way of the Ahir pass to the Nándgaon forests; the Divisional Forest Officer, Mr. Betham, came and joined him, and the divisional office and records were examined, and forests and operations in progress were visited in several directions in the Nándgaon Range up to the Christmas vacation.

284. In the beginning of January, the Conservator marched from Násratpur in the Násik Division to Chálisgaon in East Khándesh, where the Divisional Forest Officer, Mr. Desái, joined him, and accompanied him to Bhusával to see the Collector of Khándesh, Mr. Loch, and to discuss the forest business of the collectorate generally, and also the principles governing the forest demarcation undertaking in the Dángs. Returning to Chálisgaon, the Conservator marched westward, meeting Mr. Dodgson, C.S., the Forest Demarcation and Settlement Officer of Khándesh, in camp at Vinchur and Arvi, when the progress of demarcation in the district and other matters connected therewith were talked over. The coupe and the firewood felling operations at Arvi in the Dhulia Range of the West Khándesh Division were inspected, and the Conservator passed into the Málegaon Range of the Násik Division, where the Divisional Forest Officer rejoined his camp. The Anjan forests about Gálna and Kakane were inspected. Hearing that the camp of Mr. Gibb, C. S., Assistant Collector of Khándesh, who was Forest Demarcation Officer of the Dángs, was about 21 miles off, the Conservator rode to the place, Ner, to meet this officer, and had a long and satisfactory discussion with him over maps, &c., in respect of the selection and demarcation of forest reserves in the Dángs. Passing out of the Málegaon Range of the Násik Division by the way of the Kakani pass, the Conservator marched into the Pimpalner Range of the West Khándesh Division, and descended the Kondaibari into the Nawápur Range; the forests of both ranges were visited daily up to the end of January. The Sub-Division Forest Officer, Mr. Hinge, joined the Conser-

vator at Kondaibari. On the 31st January camp was at Lakadkot on the Khándesh and Gáikwári frontiers.

285. On the 1st February, the camp was moved to Tintaria on the bank of the Tápti river, and the forests of the Mándvi Range of the Surat Division bordering the Wanjapur taraf of the Baroda State, and draining into the Tápti river, were inspected. Mr. R. H. Mádan, the Divisional Forest Officer, joined the Conservator, and took him to see the coupes, and the teak felling operations in the Mándvi Range, and the forest areas in the neighbourhood of Mándvi town, which under orders of Government Resolution No. 3692, dated 28th May 1890, Revenue Department, had to be cleared of all undergrowth, in order to improve the health of the town, in accordance with a recommendation to that effect made by the Sanitary Commissioner. Up to the 21st February, the Conservator was travelling with the Divisional Forest Officer in the Surat Division, inspecting the forests, including the coupe which had been marked out for sale in the Gundeva reserve; the office and records of the division were examined, and the teak timber brought from the Dángs' forests to the Wagrech depôt near the Bilimora station, on the Bombay Baroda and Central India Railway, and the bandar on the Gulf of Cambay was examined and valued, and on the 22nd of February the Conservator passed over into the Umbargaon Range of the North Thána Division.

286. Coupes and timber operations in the Umbargaon and Dáhánu Ranges were visited with the Divisional Forest Officer, North Thána, whose records and office were examined also. Mr. B. Ribbentrop, C.I.E., Inspector-General of Forests, with Mr. Hill, of the Forest Department of the Government of India, came out to Malyan, and to the Conservator's camp at Gholwad, when Messrs. Fry and Gleadow, Divisional Forest Officer, Working Plans and North Thána, respectively, were present also, when occupied lands outside of the forest areas covered with teak timber growing upon them the property of Government, and also a forest block with a coupe of the season, and compartments closed for reproduction, were visited and inspected.

287. From the 9th to the 14th March, the Conservator was in Bombay, forming a member of the Committee appointed by Government Resolution No. 1561, dated 26th February 1891, to discuss the reorganization of the subordinate Forest establishments of the Bombay Presidency, to which reference has been made in paragraph 104 of this report, and returning to his camp at Malyan in the Dáhánu Range, he marched from thence to Boisar in the Máhim Range, visiting daily, with Mr. Gleadow, the Divisional Forest Officer, forest blocks, coupes undergoing felling, with the exploitation of the timber by contractors and purchasers, compartments under closure, &c., &c., up to the 23rd of the month, when the camp broke up for the Easter vacation, which lasted up to the close of the official year, the 31st March 1891.

288. Very material changes have been made during the year in the status of the Conservators of Forests, and also in their position in respect of the forest administration of their circle, and of their control over Divisional Forest Officers, and in the authority to be exercised by Forest officers generally, and in the relation they are to occupy with regard to the Revenue officers, by Government Resolution No. 650 of the 26th January 1891, in the Revenue Department, which reads thus :—

"Resolution.—His Excellency the Governor in Council considers it necessary in disposing of the reports quoted at the commencement of the preamble, and with special reference to circumstances that have recently been brought to his notice, to re-affirm the views of Government as to the relations that should exist between Revenue and Forest officers, and at the same time to make clear his intentions as to the treatment of privileges accorded to villagers in forest.

"2. The guiding principle that forest administration is a branch of the general administration, and that responsibility for a wise and efficient management of forests rests as much with the Collectors and their Assistants as with the officers of the Forest Department, has been laid down in Government Resolution No. 2448 of 8th April 1890. While, on the one hand, the creation of a separate and specially trained department has made it unnecessary and undesirable that Revenue officers should interfere with the professional work of Forest officers, it is essential, on the other hand, that the position and authority of the Collector, as the officer responsible for the executive management and well-being of his district and the head of the Forest Department therein, should be upheld and effectively safeguarded.

This principle is of general application; but its observance is specially important in districts such as Thána, where large tracts, formerly recognized as open to the villagers for communal purposes, have been included in forests, and where, as observed by the Forest Commission, former custom and conditions of agriculture give the cultivators strong claims to liberal treatment in all arrangements for the distribution of forest produce, and where, owing to the system of forest demarcation which circumstances have made it necessary to adopt, local as well as imperial wants have generally to be met from the same areas. In its management of forests the ease and contentment of the people is an object of greater solicitude to Government than the realization of revenue, and while no relaxation of precautions necessary for the conservation and reproduction of the timber and firewood supplies can be permitted, and the Forest officers must be vigorously supported in resisting unauthorised encroachments, Government have no desire to increase their forest revenue by the curtailment of conceded privileges or of local supply, or by the levy of excessive charges for grass and other minor forest produce. The benefit of any revenue so obtained would be altogether insufficient to countervail the hardship and irritation that would be caused were the rayats unduly pressed in the matter of obtaining *ráb* and firewood, grazing for their cattle, or grass for thatching and other household purposes. In this connexion, the attention of all officers is called to the orders passed in Government Resolution, No. 7467 of 15th September 1885 and No. 7022 of 4th October 1886.

"3. The rules of 1870 quoted in the preamble, which are still in force, recognise this principle, in declaring the district Forest Officer to be subordinate to the Collector, subject to certain specified limitations. The Forest Commission suggested an amendment to Rule 4, giving authority to the Collector to issue orders direct to the Divisional Forest Officer, whenever he considers anything in the action of the Forest Department to be against the spirit of Government orders, or to call for immediate interference. Government disclaim crediting the officers of that Department *as a body* with any indisposition to obey orders, but it is essential that in every district the Collector should, under the general control of the Commissioner, have the power to interfere whenever action taken, or proposed to be taken, by the Forest Department in the interests of conservancy may appear to conflict with local requirements or forest privileges granted by the Government. The first sentence of Rule 4 is therefore altered as follows:—

> 'The Collector has the power to issue orders to Divisional Forest Officers and their subordinates direct, in all matters connected with the supply of local wants and the exercise of communal rights and privileges, but not as regards purely professional matters of forest management.'

"4. It is necessary also to supplement these rules by further directions as regards the issue of orders affecting local supply and privileges conceded by Government to the local population and the channel through which such orders should be communicated to those concerned. Under the procedure laid down in the rules all orders of a professional character must emanate from the Conservator, but must reach the Divisional Forest Officer through the Collector. In the same way all correspondence between the Divisional Forest Officer and the Conservator must pass through the Collector. The rules however are silent as to the issue of circulars and orders affecting privileges in forests. Hitherto the recognised practice has been that such orders shall not be issued by the Conservator or the Divisional Forest Officer without first consulting the Collector. On a reference from the Commissioner, N. D., Government has recently directed (Government Resolution No. 8659 of 5th December 1890) that this practice shall be continued in all Divisions of the Northern Circle pending further orders.

"5. The Governor in Council has now fully considered the subject and is of opinion that the procedure above described affords an insufficient guarantee for the due supply of local wants and for the unrestricted enjoyment by the people of the various privileges in forests, which have been, or may hereafter be, conceded to them. Government are sensible of the zeal by which the Conservators and Forest officers generally are actuated, and of the good work which is being done by them. Unless however the Revenue officers keep a watchful eye over all forest operations affecting local supply and local privileges, there is evident danger of the intentions of Government being frustrated and misconstrued through excess of zeal for conservancy on the part of Forest officials. Disregard of the rule which requires all orders regarding privileges to be sent through the Collectors has on more than one occasion caused hardship and inconvenience to forest villagers, which might doubtless have been avoided had the Collector been given the opportunity of objecting, which the rule itself provides. It is to the Collectors and Commissioners that Government must look to exercise the check which is required, and to enable them to do so more effectually than at present, it is necessary to direct that in future all orders affecting local supply and privileges in forests shall be issued *exclusively* by the Collectors, and shall be communicated to the people interested through the ordinary revenue channels. All orders regarding closure of forest compartments, whether for planting or reboisement, or for punitive purposes, except closure of coupes recently felled in regular rotation in accordance with duly sanctioned working plans, must be held to fall within this category. It must be understood that the position of Divisional Forest Officers is, in all but purely technical matters, that of Assistants to the Collectors for forest purposes, and that their subordination

to the Collectors is no less than that of District Superintendents of Police to District Magistrates. It will of course be open to the Forest officers to move the Collectors to issue such orders as occasion may demand, but the orders when issued must be the Collector's own orders and must be communicated as such to the people concerned through the Mámlatdárs and village officers. Should a Collector refuse to issue any order which may be considered necessary by the Forest Department, the question may be referred by the Conservator to the Commissioner, but in no case should Conservators or Divisional Forest Officers hereafter themselves issue any orders of the nature referred to. The following rule is accordingly added to those in force —

> Rule 2 (*a*) All orders in any way affecting local supply or privileges in forests shall in future be issued exclusively by the Collector, through the ordinary revenue channels, to the village officers and the people concerned. Forest officers may not issue to their subordinates orders affecting these matters, without the prior approval of the Collector.

"6. Government in their Resolution No. 2448 of 8th April 1890 expressed their opinion that the Forest Branch should be placed in closer connection with the ordinary administration than is the case at present, and the Commissioners were asked to give careful consideration to the matter, and, after consulting the Conservators and other officers, to advise as to the manner in which the desired object could best be attained. In paragraph 7 of the same Resolution Government indicated certain measures which it might probably be found expedient to adopt to secure the end in view. The replies called for have been received and Government are now in a position to pass definite orders on the subject.

"7. As suggested by the Commissioners, C. D and N D, the Collector should be regularly informed before the commencement of each season of the principal forest operations to be carried out in his district. The Collector should communicate to his Assistants such information on this subject as may concern their respective charges. The responsibility for carrying out the sanctioned forest operations will of course rest with the Forest Department, and the Revenue officers must be careful not to interfere in the technical work of that department. The Collectors will have a voice in the preparation of working plans in regard to proposed closures of forest areas against grazing and other privileges, and it will be their duty to see that due provision is made for local wants both in the original proposals and in the subsequent carrying out of the sanctioned operations. It is important, as Mr James has urged, that Revenue officers of all grades should know where cuttings are going on and what areas need special portection, that they may be able to give exact information from time to time to the people concerned as to where supplies are obtainable, and where they may, and where they may not, graze their cattle.

"8. Revenue officers should at the same time give every possible assistance to the Divisional Forest Officers by giving information of all cases of forest fires or offences committed in forests, and of any neglect of duty on the part of Forest subordinates which may come under their notice, and by impressing on their subordinates a sense of their duty to protect the Government forests against theft or injury. Government concur with the Commissioner, C. D., in considering that exemplary punishment should be inflicted on village officers whenever damage has resulted to Government forests through culpable negligence on the part of those officers.

"9. The Collectors should similarly be kept informed, and should in turn inform their Assistants, of all changes in the personnel of the higher Forest subordinates, and both the Collector and his Assistants should from time to time inspect the offices and accounts of the ranges within their charge, taking care that the Range Officers are not withdrawn from important out-door duties to attend their inspections.

"10. As regards the system of correspondence with and conveyance of orders to subordinate Forest establishments or to the ordinary Revenue officials from the Divisional Forest Officers, Government approve of the proposals made by the Commissioner, C. D. In accordance with these proposals orders from Divisional Forest Officers to Range Forest Officers should as at present be sent direct, while letters from Divisional Forest Officers to Mámlatdárs should as a rule be sent through the Assistant Collectors and orders from Forest to village officers should go through the Mámlatdárs concerned, except in urgent cases, but it is to be an invariable rule in such cases that copies of the orders should be sent to the Mámlatdárs simultaneously with their issue to the village officers.

"11. Government in their Resolution No. 4832 of 6th July 1889, paragraph 10, desired the Committee appointed under that Resolution to draft simple rules with a view to bring the work of the lower Forest establishment under the cognisance of the district officers. The rules contained in Appendix IV of the Committee's report No. 476 of 14th February 1890 and quoted in the preamble, are approved and should be generally adopted. They do not of course relate to Collectors, who will exercise their own discretion in such matters.

"12. In view of the opinions expressed by the majority of the officers consulted Government consider it unadvisable to adopt the suggestion that the office staff of the Divisional Forest Officer should be placed on the list of the Collector's establishment. The Collector should, however, have some control over the distribution of the subordinate Forest establish-

ment employed in his district, and should have a voice in all superior appointments on that establishment. The Commissioners should report their opinions and proposals on these points after consulting the Conservators. Government think it unnecessary that the accounts of Divisional Forest Officers should be inspected by the Collectors. The suggestion that Divisional Forest Officers might, if they desired, be relieved by the Collector of any duty, such as inquiry into misconduct of subordinates, which might seriously interfere with their more specific professional duty at any particular time, and which could be as well conducted by an Assistant Collector or an experienced Mámlatdár, need not be further considered, that being a matter of detail to be settled by local officers. At the same time it should be distinctly understood that the Collector and Magistrate has the same power at all times to order an investigation into alleged misconduct on the part of Forest officials, as he has in the case of Police and Revenue establishment, and he can entrust the enquiry to any district officer whom he may select.

"13. Other papers before Government disclose the necessity for supplementing the previous orders in connection with working plans. The Forest Commission recommended (Chapter IV, paragraph 80) that all working plans should, before final sanction, be submitted to the Collector of the district concerned for careful scrutiny, and Government consider it essential that the Collectors should have full opportunity of judging of the effects of the proposed closures of forests, and of suggesting such modifications in the plans as are imperatively necessary to meet the reasonable wants of the people. Government also consider it very important that in the Konkan the compartments of a forest block should be felled in regular rotation as they fall due. The system of selling compartments by contract is progressing satisfactorily. It appears, nevertheless, from the correspondence quoted in the preamble of Government Resolution No. 8674 of the 6th December 1890 that a considerable number of the compartments which ought to be felled in any particular year in Thána remains, for some reason or other, unsold. As the sufficiency or otherwise of provision for the *rán* supply of the forest villages of that district depends on the regular periodical cutting of each compartment of a forest block in its turn, it is obvious that if compartments remain unsold and unfelled hardship and inconvenience must result to the villagers whose wants in this respect these fellings are expected to supply. The contentment of the villagers and the efficiency of the system of working plans alike depend on the felling of compartments in regular rotation. Except under very exceptional circumstances no deviation from the regular plan should be permitted, and no compartments which ought to be felled in any particular year should be left unfelled. If the Forest Department is unable to sell profitably to contractors all the compartments that fall due for felling, and if departmental felling is for any reason impracticable, it will be necessary to permit the villagers to enter the unsold compartments and to lop for themselves the material to which they would have been entitled, had such compartments been felled in ordinary course, or to meet the villagers' requirements in such other manner as the Conservator may be able to devise and the Collector and Commissioner may consider sufficient.

"14. In conclusion, His Excellency the Governor in Council deems it necessary to remind Commissioners that they are responsible for the entire executive administration of their Divisions, and he expects that they will take care that these orders of Government are fully carried out in spirit as well as in letter. It is the duty of Commissioners in administering the forest affairs of their several Divisions to issue orders and instructions to Collectors and Conservators, to interpret the orders of Government whenever doubt may arise in applying them, to settle matters of inter-departmental difference, and to promote harmonious working between the Revenue and Forest officers. The Conservators should report to the Divisional Commissioners, excepting on matters relating to departmental finance and leave and transfer of establishment, regarding which they may report direct to Government. Whenever reference is made to Government by Commissioners, the views of the officers of both departments should be set forth and discussed in the Commissioners' reports.

"15. In Sind the Commissioner will be the controlling officer in all matters, other than financial, of forest administration."

289. The old Rule 4 published under Government Resolution No. 3756 of 6th August 1870 in the Revenue Department, to which reference is made in paragraph 3 of the above Resolution, reads thus:—

4th.—The Collector is not to issue orders to the district officer affecting forest management direct. But in the event of his deeming it necessary to order him to proceed to any particular locality he can do so, taking care to send a copy of such order for the information of the Conservator.

290. The rules referred to in paragraph 11 of the Resolution are the following:—

1.—When a Mahálkari or Chief Constable, or any Revenue or Police officer of higher rank, camps in the limits of a forest village, or 'in the limits

of a forest beat or round ' the forest guard shall report himself to such officer, and bring his diary with him for inspection.

2.—A forest guard need not report himself more than once to the same officer in one season, but should present himself on other occasions if sent for.

3. The officer to whom report is made should, time permitting, inspect the forest guard's diary, and put such questions to him as may seem expedient with a view to ascertaining whether he is attentive to his duties. The village officers should also be questioned on the point.

4.—Time and opportunity permitting, the officers named should visit any forest block, plantation or special work in charge of the forest guard, who should, if possible, attend such officer on his visit.

5.—No Revenue or Police officer shall call a forest guard off his beat, nor shall a forest guard leave his beat in order to report himself to such officer.

6.—No Revenue or Police officer shall punish or censure a forest guard, but, if he deems it necessary, shall report the result of his enquiries and observations to the Divisional Forest Officer. He may however call the attention of the forest guard to any deficiency which he proposes to report, with a view to immediate amendment.

7.—A Revenue or Police officer examining a forest guard's diary shall write the word 'seen' below the last entry, attaching his signature and the date of inspection.

291. These orders, taken together with the later one of Government Resolution No. 4111 of the 16th June 1891, create a revolution in the system of forest administration which was introduced in 1870 under Government Resolution No. 3756 of the 6th August of that year, following the visit made by Dr. Brandis, Inspector-General of Forests to the Government of India, to the forests of this Presidency, at the invitation of the Bombay Government. The power, the directing control, and the influence of the Conservators of Forests in the forest administration will be greatly lessened hereafter by the change of the system which has prevailed for the past twenty years, during which the forest revenues of the Presidency, which stood at Rs. 10,22,000 in 1869 70, have expanded to Rs. 31,38,000 in 1889-90: and at the same time the capital value of the property of the State represented by the forest areas has augmented a hundredfold.

292. In the Thána Collectorate Messrs. F. Gleadow, Deputy Conservator, and G. P. Millett, Assistant Conservator, in charge of the North and South Thána Divisions respectively, have worked with zeal and energy in a very difficult district and under unfavourable circumstances. The success of the system of sales of timber standing to purchasers and contractors, with such a large number of small coupes as arranged chiefly for the service of local supply, but also in the interests of providing employment over the greater portion of the year, distributed over the face of the district, in such numerous centres of labour, is only obtained by great activity, industry and devotion to duty. Messrs. Baptista and Robinson, Sub-Division Officers in North Thána, are favourably reported upon as having worked hard and well. In South Thána Mr. J. H. Clabby deserves commendation for the careful and painstaking way in which he has conducted his sub-divisional duties; while Mr. Osmaston, a newly arrived trained Forest officer from Cooper's Hill, has entered upon his professional work in this country with great zeal and earnestness, and promises to be a very efficient controlling officer.

293. In the Khándesh Collectorate Messrs Desái and Fagan have administered the East and West Khándesh Division, respectively, to the satisfaction of the Collector and of the Conservator generally. The Collector has recorded that the East Khándesh report "is a satisfactory one and reflects credit on Mr. Desái and his subordinates. It is clear that the forest guards in East Khándesh have exerted greater vigilance than in the former years in detecting offences." And "the improvement in fire conservancy is most satisfactory" * * *. "The very satisfactory financial state of the East Khándesh Division justifies an in-

creased outlay for purposes of conservancy" * * * . "As regards the financial results of the past year they are most satisfactory; both the gross and the net revenue are higher than they have ever been before, both showing steady yearly improvement ever since 1886-87. The total charges are also higher than they have ever hitherto been, but there is no harm in this: the object of the Forest Department is to improve and to protect the forests, and in the Collector's opinion some extra outlay for this purpose is perfectly justifiable; it will be the cheapest policy in the long run."

294. Regarding the West Khándesh Division the Collector writes:—

"Undersigned has seen a good deal of the Khándesh forests and their inhabitants and he is firmly convinced that what is wanted before fires can be effectually stopped is a very much larger protective establishment" * * * . "There is no doubt, as the Divisional forest officer points out in his paragraph 71, that the Bhils are gradually settling down to agricultural pursuits; this change in their habits though slow will have a beneficial effect on forest conservancy in years to come. * * * On the whole the report shows that the Forest Department has worked hard and well, and if subordinates in the Revenue and Magisterial departments of Government have not supported the Forest officers as much as the latter might wish, it must always be borne in mind that forest conservancy does not appeal to the sympathies of the public in general, and that it is only by the lapse of time and consequent gradual recognition of the intentions of Government that the principles of the forest law will be understood."

295. The work performed by Mr. Ganesh Sakhárám Hingo, Sub-Division Officer in West Khándesh, has been highly appreciated by Mr. Fagan, who reports that he conducted the bulk of the sale work, and acquitted himself most commendably.

296. The Collector of Násik has recorded:—

"The Collector regrets to see that so many of the upper subordinates of the department are slack and inefficient. He is glad to record, however, that in his opinion Mr. Betham, the Divisional Forest Officer, has done a good year's work, and he joins most cordially in the commendation that officer bestows on Mr. Wallinger, the Sub-Division Officer."

297. Mr. Wilkins, the Divisional Forest Officer of Ahmednagar, has worked with his usual energy and devotion, and the Collector, Mr. Waddington, has recorded his opinion that "the department appears to have been worked satisfactorily. Forest fires show a satisfactory decrease in the area burnt as compared with the previous year."

298. The management of the Poona forests by Mr. Wroughton has continued to be successful and praiseworthy; and the Collector, Mr. Reid, has remarked that "so far as he could judge Mr. Wroughton worked hard and did all he could to prevent unnecessary friction between his subordinates and other departments."

299. Mr. R. E. Candy, Collector of Sátára, who takes great interest in forest management, while finding fault with the progress made in preparing working plans for the Sátára forests, and expressing dissatisfaction at the revenue having fallen about Rs. 5,000 below the figures of the previous year, remarks:—

"The number of cattle impounded for trespassing in forest areas was exceedingly large, being double the number impounded in the previous year; and in this respect there has been an improvement on the previous year."

"The work of the department was carried on by Mr. Greatheed with his usual care and devotion to duty."

300. In respect of Sholápur District, where remarkably good results have been obtained in the reboisement of entirely denuded, barren, stoney hill-sides, and in the planting of riparian reserves with bábul, since the great famine, works of afforestation which have already borne result in the production of abundance of good grass, and in the creation of desirable grazing, the Acting Collector remarks that the divisional administration report "bears evident traces of Mr. Hornidge's careful supervision of the forest property of this district, and testifies to his keen personal interest in his work."

301. Mr. Rustomji Hormasji Mádan, Divisional Forest Officer of Surat, has exercised very careful and intelligent control and direction over the forests of the Surat Division, which he has managed to the entire satisfaction of the Conservator, during the year: and the Collector, Mr. Lely, has remarked that "the (administration) report and the work it represents are in my opinion very creditable to Mr. Mádan."

302. The Panch Maháls District has had the advantage of having been under such excellent Collectors, in view of forest conservancy, as Messrs. A. F. Woodburn and H. T. Ommanney during the year; the latter officer took charge in the end of November 1890. Both of these officers had gained detailed and instructive experience in forest demarcation and settlement work in other parts of the Presidency; and they fully appreciate the high importance of the forest question. The immediate result is to be seen in the fact that 11,405 acres of protected forest have been converted into reserved forest in the Godhra Range, and that orders have been issued by Government for the conversion of the important and fast improving forests of the eastern Maháls of Jhálod and Dohad from protected into reserved areas—*See* please paragraphs 43, 61 and 62 and 45 of the Forest Administration Report of the Northern Circle for 1888-89 and 1889-90, respectively. The extension of railway communication from Godhra to Ratlám, which was started by His Excellency the Governor Lord Harris, during the year, when completed, will give special commercial value to these forest estates. Mr. Ommanney has recorded upon the forest administration report of the year:—

"The progress made in marking the forest boundaries is satisfactory."

"Prosecutions were not excessive, and from the general absence of complaint would appear to have been judiciously instituted. The same remark applies to the compounding of offences under Section 67."

"Mr. Keys is not quite correct in saying that the villagers are at liberty to cut down all wood standing in their holdings except teak. There are several kinds of trees on the same footing as teak, but the orders reserving them are rather confused. A proposal for simplifying the orders will in due time be submitted to Government. It is nevertheless true that the whole aspect of the country is changing for the worse through the felling and lopping of unreserved trees not only in occupied but also in waste lands."

"Progress made in clearing occupied lands of reserved wood was a subject deserving special mention in connection with the forest administration of this district. A large share of the receipts is derived from this source. The work has been vigorously prosecuted."

"The Collector is completely satisfied with Mr. Key's administration (of the forests)."

303. Mr. T. B. Fry, Divisional Forest Officer of Working Plans, has performed his duties in the Thána District in a satisfactory manner, and the Conservator of Forests must express his acknowledgments of the hearty and loyal co-operation, the ready and willing assistance, which he has received throughout this year, as always, from Messrs. F. R. Desái, R. C. Wroughton, W. G. Betham, T. B. Fry, A. D. Wilkins, Frank Gleadow, H. W. Keys, S. Hornidge, G. P. Millett and R. H. Mádan, Divisional Forest Officers, who have managed their charges to his entire satisfaction. Mr. R. S. Fagan is a very keen and hard-working Forest officer and is highly commended by his Collectors; this officer was specially deputed to examine and report upon the forests of the Barwáni State, and he has submitted a valuable report to the Political officers of the Central India Agency. Mr. C. Greatheed is painstaking and capable and of sound judgment, so that his opinion and advice are always worth seeking. With such an efficient staff of willing officers, the lines of a Conservator of Forests, despite the difficulties and anxieties surrounding forest administration in this country, are cast in pleasant places.

304. Several of the higher subordinate staff have received a professional education in the Forest Class at the College of Science, Poona, and are excellent officers, but there is unfortunately too small a number of these men: however, some of the uneducated rangers and foresters are second to none of their trained colleagues in administrative capability, activity and honesty. The life of a Range Forest Officer is a hard one, for the severest work of the administration is upon his shoulders, and the responsibility for any failure is generally visited

upon him. The names of several of their deserving Range Forest Officers have been brought to notice prominently by the Divisional Forest Officers, and the Conservator must with pleasure give them a place in this report, as deserving special acknowledgment from him, and from Government also:—

Shekh Abbas Shekh Ali Potrik.
Hasan Ali Mahomed Ali.
Valabhrám Mulji Bhat.
Chimnáji Parasharám Vaidya.
Abdul Rasul Khajbaksh.
Bholánáth Ranchordás.
Vishnu Mahádev Tilak.
Govind Rámchandra Taklé.
Báláji Dhonddev Dhekné.
V. P. Ribeiro,
Rámchandra Ráwji Bodwadkar.
Keshav Pándurang Kavthekar.
Dinkar Náráyan Dámlé.
Govind Kákáji Sonár.
Sitárám Vináyak Maduskar,
Vishnu Keshav Pátankar.
Náráyan Rájáram Wadvatharkar.
Sadáshiv Pándurang Limayé.
Chotálál Shivlál.
Isa Mahomed Viraji.
Náro Krishna Mehendalé.

305. The office establishment has done good work throughout the year and the following clerks deserve to have their names mentioned:—Messrs. Krishnáji Bábáji Phadké, Keshav Ganesh Vaidya, Mahádev Náráyan Gokhlé and Krishnáji Vyánkatesh Lohokare, of the Conservator's Office; Tukárám Vithoba Sonár, of the East Khándesh Division; Dámodar Tukárám Salsingekar of the West Khándesh Division; and Messrs. Moro Parasharám Vaidya, Báji Rámchandra Bápat, and Ganesh Náráyan Kavthekar of the Sholápur Division, and Mr. Vyankatesh Hari Shikhare of the Working Plans Division.

306. The health of the Forest establishments was fairly good during the year, although several officers and subordinates suffered from jungle-fever from time to time. The statistics of the Working Plans Division, which is a comparatively small establishment, are significant of the constant battle against malaria by Forest officers: they show that out of 2,386 working days, no less than 589 were lost through sickness, which means that each member of the staff engaged upon marking out coupes in the Thána District had fever, and was prostrated thereby for a fourth of his working days. Mr. Wallinger, Sub-Division Officer, was seriously ill for about two months. An excellently designed medicine chest which is portable, strong and well furnished, was supplied from the Medical Stores at Bombay to all Divisional Forest Officers, to some Sub-Division Officers, to all Range Forest Officers, and to one or two Forest Settlement Officers, during the year, and was found to be very serviceable.

307. Very great interest is taken by several Collectors in forest conservancy, and cordial support has been given by them to the forest administration during the year. In the Thána Collectorate Mr. Sinclair, C. S., by his practical knowledge of forestry, his understanding of the difficulties besetting forest management in that district, and his administrative capacity, has rendered very valuable assistance in removing misapprehensions and smoothing difficulties. Mr. W. Loch in Khándesh, Mr. Porteous in Násik, Mr. Candy, in Sátára, Mr. Winter, in Sholápur, Mr. Lely, in Surat, and Mr. Ommanney in the Panch Mahals, have been strong Forest Collectors, and have always shown great consideration, and have given hearty support to the Forest officers, including the Conservator.

308. A course of lectures at the College of Science was duly delivered during the midsummer and autumn term of the Forest Class by Mr. Gleadow, who likewise conducted the examinations of the classes. Three students passed the final examination of the senior class in September 1890, and six students joined the junior class in January 1891. Mr. Gleadow was likewise appointed by the Bombay University to undertake the examination in Forestry of the candidates for University distinction in November and December 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Poona, 30th October 1891.

FORM No. 49.

Forest Department, Bombay, Northern Circle.

Area of Reserved Forests, 1890-91.

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1890. Acres.	Area on 1st April 1890. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1891. Acres.	Area on 31st March 1891. Equivalent in square miles.	Number and date of Notification of addition or transfer.	Remarks.
				Sq. m. a.				Sq. m. a.		
North Thána ...	Thána		238,101	372 21	...	(a)62	238,039	371 599	(a) No. 4387, 23-6-90.	
									(b) Nos. 7414, 18-10-90, 5426B, 4-8 90, 6905, 30-9 90, 8141, 18-11 90, and 667A, 27 1-91.	
South Thána ...			280,329	438 9	(b)8,786	*(c)80,698	208,417	325 417	(c) Nos. 4387, 23-6-90, 1838, 11-3-91, 6382, 4-9 90.	* Out of this 79,754 acres represent Rectification of area.
East Khándesh ...	Khándesh ...		510,632	797 552	†(d)36,745	‡(e)40,838	506,539	791 299	(d) No. 7430A, 20-10-90. (e) No. 7413, 18-10-90.	† Out of this 1,428 acres represent Rectification of area.
West Khándesh ..			767,211	1,198 491	(f)10,476	§(g)78,182	699,505	1,092 625	(f) Nos. 7430A, 20 10-90, 7581, 27-10-90.	‡ 39,144 acres Rectification of area.
									(g) Nos. 3813, 2-6-90, 9231, 27-12-90, 9183, 20 12-90	§ 68,308 Rectification of area.
Násik	Násik		763,148	1,192 268	(h)51	(i)13	763,186	1,192 306	(h) Nos. 8172, 15-11-90, 5096, 21-7-90, 5097, 21-7-90.	
									(i) Nos. 3315, 13-5-90, 4838, 14-7 90.	
Ahmednágar ...	Ahmednagar ...		558,443	864 483	‖(j)2,789	¶(k)23,960	532,272	831 432	(j) No. 6692, 23-9-90.	‖ 32 Rectification of area.
Poona	Poona		475,387	742 507	(l)3,756	(m)3,386	475,757	743 237	(k) Nos. 8651, 5-12 90, 3084, 5-5-90.	¶ 23,958 do. owing to revision survey.
									(l) Nos. 4697, 7 7-90, 4375, 23-6-90, 3954, 7-6-90, 4196, 16-6-90.	
Sátára	Sátára		436,493	682 13	(n)2,768	(o)154	439,107	686 67	(m) Nos. 5574, 11-8-90, 7988, 10 11-90.	
									(n) Nos. 8142, 18-11-90, 9098, 19-12-90, 6849, 29-9-90, 3956, 7-6-90.	
Sholápur	Sholápur ...		177,242	276 602	...	(p)10	177,232	276 592	(o) Nos. 8011, 12-11-90, 3547, 21-5-90.	
Surat	Surat		43,640	68 120	(q)25	...	43,665	68 145	(p) No. 1623, 3-3-91.	
Dángs			434,240	678 320	...	...	434,240	678 320	(q) No. 439, 19-1-91.	
Kaira	Kaira		39	0 39	...	...	39	0 39		
Panch Mahála ...	Panch Mahála ...		117,243	183 123	(r)9,415	...	126,658	197 578	(r) Nos. 1129A, 12-2-91, 1138, 13-2-91, 6051, 25-8-90.	
Ahmedabad ...	Ahmedabad ...		21,562	33 442	...	...	21,562	33 442		
		Total ...	48,18,710	7,529 150	74,811	227,303	4,666,218	7,290 618		

Dated Poona, 30th October 1891.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 49A.

Forest Department, Bombay, Northern Circle.

Area of Protected Forests, 1890-91.

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square mile.	Acres.	Acres.	Acres.	Equivalent in square miles.		
				Sq. m. a.				Sq. m. a.		
North Thána ...	Thána		211,216	330 16	...	(a)114	211,102	329 542	(a) No. 427 / 19-1-91.	
South Thána ...			219,258	342 378	*156	(b)4,609	214,805	335 405	Nos. 3498A / 20-5-90, 5426D / 4-8-90, 3498 / 20-5-90, 667 / 17-1-91.	* Rectification of area.
East Khándesh ..	Khándesh ...		34,081	53 161	†22	(c)22,678	11,425	17 545	(c) No. 7430 / 20-10-90.	† Do. do.
West Khándesh..			124,951	195 151	...	(d)7,067	117,884	184 124	(d) No. 7430 / 20-10-90.	
Násik	Násik		...	...	...	...	...	...		
Ahmednagar ...	Ahmednagar ...		7,154	11 114	‡183	...	7,337	11 297		‡ Rectification of area.
Poona	Poona		...	...	...	...	...	...		
Sátára	Sátára		631	0 631	§17	...	648	1 8		§ Rectification of area.
Sholápur... ...	Sholápur ...		...	...	...	...	...	...		
Surat	Surat		...	...	...	...	...	...		
Dánga			...	...	...	...	...	...		
Kaira	Kaira		...	...	...	...	...	...		
Panch Mahals ...	Panch Mahals ...		88,596	138 276	...	(e)15,186	73,410	114 450	(e) Nos. 1066 & 1066A / 10-2-91.	
Ahmedabad ..	Ahmedabad ...		...	...	...	...	...	...		
		Total ...	685,887	1,071 447	378	49,654	636,611	994 451		

Poona, 30th October 1891.

A. T. SHUTTLEWORTH,
Conservator of Forests, N. C.

FORM No. 50.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Register of Breaches of Forest Rules during 1890-91.

Forest Division.		Cases pending from 1889-90.	New Cases of the Year.					Total cases.	Disposed of during the Year.						Cases pending at close of year.
			Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
									Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
North Thána ...	A	11	2	207	3	...	212	223	189	259	25	72	214	331	9
	B	...	...	99	...	...	99	99	99	140	...	...	99	140	...
	C	...	...	97	...	...	97	...	...	...	...	...	...	...	...
	Total	11	2	403	3	...	408	322	288	399	25	72	313	471	9
South Thána ...	A	6	2	116	4	13	135	141	89	191	41	77	130	268	11
	B	...	...	356	...	...	356	356	356	356	...	...	356	356	...
	C	...	...	296	...	...	296	...	...	...	...	...	...	...	...
	Total	6	2	768	4	13	787	497	445	547	41	77	486	624	11
East Khándesh ...	A	9	13	25	11	65	114	123	105	139	14	65	119	204	4
	B	...	14	202	563	467	1,246	1,246	1,246	2,254	...	...	1,246	2,254	...
	C	...	8	2	...	...	10	...	...	...	...	...	...	...	...
	Total	9	35	229	574	532	1,370	1,369	1,351	2,393	14	65	1,365	2,458	4
West Khándesh ...	A	5	26	29	3	72	130	135	103	220	23	63	126	283	9
	B	...	3	212	584	369	1,168	1,168	1,168	3,422	...	...	1,168	3,422	...
	C	...	76	83	11	9	179	...	...	...	...	...	...	...	...
	Total	5	105	324	598	450	1,477	1,303	1,271	3,642	23	63	1,294	3,705	9
Násik	A	18	1	39	24	25	89	107	57	91	30	36	87	127	20
	B	163	109	522	338	111	1,080	1,243	975	2,546	54	83	1,029	2,629	214
	C	...	75	123	16	64	278	...	...	...	...	...	...	...	...
	Total	181	185	684	378	200	1,447	1,350	1,032	2,637	84	119	1,116	2,756	234

Ahmednagar	A ...	14	1	22	43	15	81	95	64	206	31	134	95	340	...
	B ...	199	...	146	2,654	16	2,816	3,015	2,481	7,500	...	..	2,481	7,500	534
	C ...	...	37	67	88	31	223	...	...	...	...	...	...	...	...
	Total ...	213	38	235	2,785	62	3,120	3,110	2,545	7,706	31	134	2,576	7,840	534
Poona	A ...	27	1	65	339	45	450	477	364	911	110	235	474	1,146	3
	B ...	24	25	395	1,245	18	1,683	1,707	1,707	4,272	...	...	1,707	4,272	...
	C ...	...	15	61	6	...	82	...	...	...	...	...	...	...	...
	Total ...	51	41	521	1,590	63	2,215	2,184	2,071	5,183	110	235	2,181	5,418	3
...ara	A ...	2	2	11	18	8	39	41	26	72	11	23	37	95	4
	B ...	6	23	115	10	7	155	161	144	232	3	8	147	240	14
	C ...	...	21	57	...	...	78	...	...	..	...	...	...	...	...
	Total ...	8	46	183	28	15	272	202	170	304	14	31	184	335	18
Sholápur	A ...	16	..	24	36	26	86	102	73	170	24	83	97	253	5
	B ...	...	...	...	2,007	...	2,007	2,007	1,553	3,758	...	...	1,553	3,758	454
	C ...	...	9	3	...	...	12	...	...	...	...	...	...	...	...
	Total ...	16	9	27	2,043	26	2,105	2,109	1,626	3,928	24	83	1,650	4,011	459
Surat	A ...	2	...	2	...	...	2	4	1	1	3	3	4	4	...
	B ..	...	...	20	...	...	20	20	20	20	...	...	20	20	...
	C ..	...	...	1	...	...	1	...	...	...	...	...	...	...	...
	Total ...	2	...	23	...	...	23	24	21	21	3	3	24	24	...
Panch Mahals ...	A ...	1	...	46	...	3	49	50	40	97	10	24	50	121	...
	B ..	...	...	108	2	1	111	111	101	114	10	19	111	135	...
	C ..	...	...	18	...	...	18	...	...	...	...	...	...	...	...
	Total ..	1	...	172	2	4	178	161	141	211	20	43	161	254	...
Grand Total ...	A ...	111	48	586	481	272	1,387	1,498	1,111	2,357	322	815	1,433	3,172	65
	B ..	392	174	2,175	7,403	989	10,741	11,133	9,850	24,614	97	110	9,917	24,724	1,216
	C ..	...	241	808	121	104	1,274	...	...	...	...	...	...	...	...

N. B.—A means Cases taken into Court. B means Cases disposed of under Section 67 of Indian Forest Act, 1878. C means Undetected cases.

Poona, 30th October 1891.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 51.

Forest Department, Bombay, Northern Circle.

Area of Forest Tracts protected from Fire during the Dry Season 1891, to accompany Report for 1890-91.

Division	Forest Tracts	Year in which protection commenced	Area actually protected up to 15th June 1890	During the Dry Season of 1891			Cost during the Season	Remarks
				Area attempted to be protected	Failure.	Actually protected		
			Acres.	Acres	Acres	Acres	Rs	
North Thána	Sálsette	1878-79	14 592	15 629	1,784	13,845		
	Bassein .. .	,, ..	52 513	54,596	11 228	41 168	151	
	Máhim . ..	,,	126 176	127,445	13 622	113,723	361	
	Dahánu	,,	121,875	161,442	12,973	147 129	193	
	Umbargaon	,,	38 417		1, 140			
	Váda .	,,	87,703	90,453	12,592	77,861	46	
	Total		441 306	449,465	53,539	395,926	751	
South Thána	Bhiwndi	1878 79	44 961	47 945	32,000	15,945	74	
	Shábápur .	,,	81 857	156,019	10 000	112 019	181	
	Khardi . .	,, .	69 787		1 000			
	Mokháda ..	,, ..	49,373	49 423	3 500	45,923	47	
	Kalyán	,,	113 013	35,473	4,000	31 473	66	
	Murbád	,, .	86 1.0	90,290	300	89 990	50	
	Karjat .	,,	27,205	45 947	1 000	44,447	171	
	Khálapur . .	,,	17,707		500			
	Total	.	490,097	425,097	85,300	339,797	589	
East Khándesh	Amalner ..	1878 79	19 767	19 950	225	19 725		
	Páchora	,,	28 482	29 433	1,695	27,738		
	Bhadgaon	,,						
	Bhusával	,,	55 076	64, 159	3,935	60 524	.	
	Edlabad	,,						
	Chalisgaon . ..	,,	63,975	60 017	1,805	58 212		
	Chopda	,,	110,957	115 930	8 720	107 210	41	
	Erandol	,, .	15,023	16 675	460	16 215		
	Jalgaon	,,	20,799	21 440	888	20,552	14	
	Jámner	,,	39 831	41 773	546	11,227	1o	
	Ráver ...	,,						
	Sávda ..	,, ..	180,589	148,192	1,071	147,421	25	
	Yával	,,						
	Total ..	..	534,501	518,169	19,345	498,824	95	
West Khándesh	Dhulia . .	1878-79	121 981	131 192	100	131,092		
	Nandurbar	,, .	26,160	122,909	39 940	83,069	33	
	Navápur	,,						
	Pimpalner .	,,	180 592	230,363	107 418	122 945	56	
	Nizampur .	,,						
	Sháhála . ..	,,	15,784	85,676	75 000	10 676	3	
	Shirpur .	,, .	126 673	208 905	158,90	50 000	65	
	Sindkheda . ..	,, ..	24,246	24 916	33	24 883	4	
	Taloda	,,	64,707	284,660	225 676	58 984	12	
	Akrám ..	,,						
	Total	.	560 143	1 088 621	606,972	481,649	173	
Násik	Násik	1878 79	43 920	43,992	226	43 766	35	
	Igatpuri .	,,	53,609	53 976	416	53 560		
	Sinnar .	,,	35 371	35,371	60	35,311		
	Dindori ..	,, .		13		13	6	
	Niphád	,,	3 446	3,446	2	3,444		
	Chándor	,,	24 924	24,940	341	24 599		
	Yeola .	,,	31,420	31 496	41	31,455	20	
	Báglin .	,,	123 492	124 167	3,346	120 821	10	
	Kalvan .	,,	104 415	109,364	4 820	104,544	28	
	Peint .	,, .	107,090	107 218	935	106 283		
	Málegaon . .	,,	121 979	107 340		107,340	3	
	Nándgaon .	,,	107,301	122,010		122,010	.	
	Total ..		756,967	763,373	10,187	753,146	102	

FORM No. 51—*continued.*

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1890.	During the Dry Season of 1891.			Cost during the Season.	Remarks.
				Area attempted to be protected.	Failure.	Actually protected.		
			Acres	Acres.	Acres.	Acres.	Rs	
Ahmednagar ...	Nagar	1878-79 ...	41,880	40,463	...	40,463	...	
	Parner	" ...	68,879	64,094		64,094	.	
	Shrigonda ...	" ...	44,900	44,557	40	44,517	..	
	Karjat . .	" ...	50,633	50,152		50,152	.	
	Jámkhed	" ...	40,493	40,053	24	40,029	...	
	Shevgaon . .	" .	27,724	26,841	39	26,502	...	
	Nevasa...	" ...	20,650	19,696	238	19,458	...	
	Rahuri	"	51,003	48,889	2	48,887		
	Kopargaon	" ...	9,042	9,088		9,088	...	
	Sangamner	" ...	87,689	86,606	29	86,577	...	
	Akola	"	119,740	110,864	220	110,644	...	
	Total ..	.. .	562,695	541,003	592	540,411	.	
Poona ...	Junnar	1878-79 .	58,321	61,850	86	61,764	...	
	Indapur	" ...	62,422	62,467	.	62,467		
	Khed	" ...	55,875	56,740	1,210	55,530	25	
	Ambegaon	"	43,460	44,151	37	44,114		
	Sirur	" ...	20,721	20,777	...	20,777	...	
	Purandhar	"	25,853	25,827	191	25,636	9	
	Bhimthadi	" . .	54,237	53,269	...	53,269	..	
	Baramati	" ..	20,069	19,379	...	19,379	...	
	Haveli	" ...	50,080	50,091	225	49,866	25	
	Mulshi	" ..	27,619	28,112	27	28,085	..	
	Maval	" ...	54,485	54,427	378	54,049	4	
	Total ..	.....	473,142	477,090	2,154	474,936	63	
Sátára	Mahábaleshvar ...	1878-79 .	41,352	41,398	113	41,285	.	
	Man	" ...	56,099	56,099	...	56,099	...	
	Khatáv...	" ...	16,503	16,503	. .	16,503		
	Karad	" ..	35,956	35,956	...	35,986	...	
	Wái	" ...	24,875	24,893	2,180	22,713	.	
	Koregaon	" ...	28,762	28,773	.	28,773	...	
	Satara	" .	22,251	22,263	949	21,314		
	Tásgaon	" ...	20,008	20,008	...	20,008	...	
	Khandála	" ...	14,195	14,190	. .	14,190	..	
	Jávli	" ...	50,791	50,802	159	50,643	..	
	Khanápur	" ..	30,411	32,182	.	32,182	...	
	Válva	" .	27,370	29,519	12	29,507	...	
	Shirála	"						
	Patan	" ...	68,106	68,251	649	67,602	...	
	Total ...	...	436,679	440,867	4,062	436,805	...	
Sholápur . ..	Sholápur	1878-79 .	38,052	38,771	172	38,599	...	
	Bársi	" ...	8,529	8,536	250	8,286	...	
	Mádha	" .	31,088	31,391	65	31,326	...	
	Karmála	" ..	50,996	50,996	...	50,996	...	
	Pandharpur	" ...	6,094	6,094	...	6,094	...	
	Sángola...	" ...	20,473	20,473		20,473	.	
	Málsiras	" ..	21,345	21,432	...	21,432	...	
	Total ...	... ..	176,577	177,693	487	177,206	...	
Surat	Mándvi...	1878-79 ...	26,069	40,864	1,356	39,508	...	
	Dangs	" .	234,240	434,240	432,240	2,000	8	
	Chikhli	" ...	825	825	20	805	...	
	Bulsár and Párdi .	" .	1,525	1,551	...	1,551	4	
	Bárdoli	" ...	450	450	...	450	...	
	Total ...	. ...	263,109	477,930	433,616	44,314	12	
Panch Mahála ..	Godhra	1878-79 ...	78,477	88,072	4,486	83,586	1	
	Kalol ..	"	21,166	22,263	500	21,763	...	
	Hálol	"	26,070	26,495	875	27,620	...	
	Dohad	" .	45,054	46,538	678	45,860	...	
	Jhálod	" ...	23,081	26,872	2,475	24,397	...	
	Total .	...	194,448	212,240	9,014	203,226	1	
	Grand Total ...	.. ...	4,889,664	5,571,508	1,225,268	4,346,240	1,786	

Poona, 30th October 1891.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

745—MC—19

FORM No. 52.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Plantations, 1890-91.

Division.	Name of Plantation	Area in acres: On 1st April 1890	Added during the year	Excluded during the year.	Area on 31st March 1891	Receipts: Of the year.	Charges: Of the year.	Remarks
	Regular Plantations.	Acres	Acres	Acres	Acres	Rs.	Rs	
North Thána	Sálsette ...	107	..	...	107	...	86	
	Bassein	1	1	..	2		3	
	Mahim	1,880		...	1,880		41	
	Dáhanu . .	2	2	.	4	..	72	
	Váda ..	92		...	92		18	
	Umbargaon	128	2	.	130	...	100	
	Total ..	2,210	5	.	2,215	...	320	
South Thána .	Bhiwndi .	336	..	..	336		108	
	Mokháda ...	10	...	.	10	..	25	
	Karjat . .	77		21	56	...	220	
	Sháhápur	30	9	.	39	...	362	
	Kalyán	...	5	..	5	...	57	
	Total ..	453	14	21	446	..	772	
East Khándesh .	East Khándesh	*Nil*						
West Khándesh .	Akrám	..	..	..	.	...		
	Dhulia .	16	...	1	15		220	
	Nizámpur .	25	..	..	25		17	
	Pimpalner . .	2			2		100	
	Taloda ..		...	.		.		
	Total	43		1	42		337	
Nasik	Násik .	*Nil*						
Ahmednagar ..	Nagar Dongargaon	142	..		142	.	681	
Poona .	Poona	*Nil*						
Sátára	Khatáv	271	15	..	286		38	
	Koregaon	238	4		242		64	
	Karád	281			281	..	11	
	Khandála .	103	.		103		4	
	Válva ..	75	1	.	76		30	
	Sátara . ..	68	5	.	73	...	65	
	Wái ..	245	..	.	245			
	Mán	157	1	.	158		60	
	Jávli	42	. .		42	..		
	Mahabaleshvar .	716	408	.	1,124		146	
	Tásgaon	302		.	302	.	6	
	Patan	166	1	.	167	.	20	
	Khanápur	68	1		69		10	
	Shirála ...	26			26			
	Total ..	2,758	436	.	3,194	.	457	
Sholápur	Sholápur	*Nil*						
Surat ..	Surat .	*Nil*						
Panch Mahála .	Kalol .	57	46	.	103	..	200	
	Halol ..	...	10		10		10	
	Total	57	56		113	..	210	
	Total, Regular Plantations .	5,663	511	22	6,152		2,777	
	Cultural Operations.							
North Thána	Sálsette ...	511	67	.	578		80	
	Bassein	2,078	1,045		3,123		98	
	Mahim ..	2,976	1,772		4,748		75	
	Dáhánu	654	1,484		4,538		80	
	Umbargaon	786	720		1,506		..	
	Váda ..	1,161	206		1,367		62	
	Total .	10,566	5,294		15,860		395	

FORM No. 52—*continued.*

Division.	Name of Plantation.	Area in Acres.				Receipts	Charges	Remarks.
		On 1st April 1890.	Added during the year.	Excluded during the year.	Area on 31st March 1891.	Of the year.		
		Acres.	Acres.	Acres.	Acres.		Rs.	
South Thána	Bhiwndi	715	36	...	751	...	24	
	Sháhápur	683	78	...	761	...	...	
	Khardi	368	48	...	416	...	140	
	Mokháda	256	81	...	337	...	52	
	Kalyán	1,042	232	...	1,274	...	2	
	Murbád	708	37	...	745	...	60	
	Karjat	1,764	128	...	1,892	...	16	
	Khálápur	1,459	418	...	1,877	...	211	
	Total ...	6,995	1,058	...	8,053	...	505	
East Khándesh	Amalner	2,150	105	...	2,255	...	348	
	Bhadgaon	322	...	...	322	...		
	Bhusával	1,764	613	...	2,377	...		
	Chálisgaon	542	200	...	742	...		
	Chopda	617	100	...	717	...		
	Edalabad	442	500	...	942	...		
	Erandol	5,000	60	...	5,120	...		
	Jalgaon	607	216	...	823	...		
	Jámner	905	93	...	1,058	...		
	Páchora	40	25	...	65	...		
	Ráver	187	200	...	387	...		
	Sávda	290	220	...	516	...		
	Yával	325	200	...	525	...		
	Total ...	13,347	2,532	...	15,849	...	348	
West Khándesh	Akráni	183	28	...	211	...	439	
	Dhulia	3,198	1,050	...	4,248	...	...	
	Nandurbár	730	16	...	746	...	...	
	Navápur	1,398	12	...	1,410	...	...	
	Nizámpur	475	15	...	490	...	...	
	Pimpalner	1,420	15	...	1,435	..	..	
	Sháháda	3,397	13	...	3,410	..	...	
	Shirpur	1,725	23	...	1,748	...	...	
	Sindkheda	6,085	92	...	6,177	...	91	
	Taloda	1,031	24	...	1,055	..	2	
	Total ...	19,642	1,288	...	20,930	...	532	
Násik	Násik	88	389	..	477	...	529	
	Igatpuri	314	101	...	415	...	274	
	Chándvad	631	160	...	791	...	80	
	Sinnar	294	...	...	294	..	14	
	Yeola	2,138	148	...	2,286	...	615	
	Niphád	452	46	...	498	...	151	
	Dindori	164	343	...	507	...	44	
	Málegaon	1,653	300	...	1,953	...	109	
	Nándgaon	359	...	...	359	...	17	
	Báglán	110	320	...	430	..	124	
	Kalvan	35	83	...	118	...	39	
	Peint	...	60	..	60	...	24	
	Total ...	6,238	1,950	...	8,188	...	2,110	
Ahmednagar	Nagar	928	142	...	1,070	...	94	
	Párner	594	74	...	668	...	76	
	Shrigonda	1,391	140	...	1,531	...	99	
	Karjat	520	204	...	724	...	90	
	Jámkhed	1,937	115	...	2,052	...	80	
	Shevgaon	536	125	...	661	...	56	
	Nevása	200	90	...	290	...	71	
	Ráhuri	221	379	...	600	...	80	
	Kopargaon	502	225	...	727	...	64	
	Sangamner	1,626	438	...	2,064	...	49	
	Akola	98	613	...	711	...	60	
	Total ...	8,553	2,545	...	11,098	...	828	
Poona	Junnar	965	47	...	1,012	...	157	
	Indápur	3,465	180	...	3,645	...	181	
	Khed	6,188	...	..	6,188	...	...	
	Ambegaon	2,290	...	...	2,290	...	..	
	Sirúr	5,848	35	...	5,883	...	107	
	Purandhar	5,973	...	...	5,973	...	6	
	Bhimthadi	3,697	76	...	3,773	...	255	
	Bárámati	2,075	39	...	2,114	...	204	
	Haveli	1,467	18	...	1,485	...	362	
	Mulshi	849	...	..	849	...	...	
	Mával	1,119	...	...	1,119	...	...	
	Plantation by Forest guards.	3,440	2,157	...	5,597	...	...	
	Total ...	37,385	2,552	...	39,937	..	1,242	

FORM No. 52—*concluded.*

Division	Name of Plantation	Area in acres: On 1st April 1890.	Added during the year.	Excluded during the year.	Area on 31st March 1891	Receipts: Of the year.	Charges: Of the year.	Remarks
		Acres.	Acres.	Acres.	Acres	Rs.	Rs.	
Sátára ...	Mahábaleshvar ...	4,407	1,991		6,398	..	...	
	Shirála	156	264	...	720	...	..	
	Sátára ...	2,902	269	...	3,171	..	...	
	Mán	9,398	3,422		12,820			
	Válva	3 519	947		4,466	..	...	
	Khatáv	1,222	17	...	1,239	...		
	Karád	21,637	32	..	21,669		...	
	Tasgaon	1,435	14	...	1,349		.	
	Khánapur ...	4,674	1,078		5,752	...	..	
	Khandála	4,295	56	.	4 351	..	.	
	Pátan ...	6,146	27	...	6,173			
	Javli	8,303	1,180	..	9,483			
	Wai	17,758	366		18,124	...		
	Koregaon .. .	15,573	3,498	..	19,071	.	.	
	Total ..	101,625	13,161		114,786			
Sholápur...	Sholapur	3,642	859		4,501	...	172	
	Bársi ..	1,676	1,141		2 817	..	20	
	Madha	7,197	1,602		8,799		203	
	Pandharpur	2,874	752	.	3,626	..	130	
	Karmála ..	4,513	4,857	...	9,370	...	398	
	Sángola	5,019	2 006	...	7,025		31	
	Málsiras	2,892	20,400		23,292		67	
	Total	27,813	31,617	..	59 180		1,021	
Surat	Dángs	..	28	28	..	.	..	
	Chorási . ..	...	...	...		..		
	Bulsar	153	29	1	181		8	
	Párdi .	45	7	...	52	..	...	
	Chikhli	143	19	.	162	..	.	
	Mandvi	574	37		611		..	
	Total ..	915	190	29	1,006		8	
Panch Mahála	Godhra	290	76	60	246	...		
	Kalol	42	14	14	42	...	.	
	Hálol	59	20	20	59	...	.	
	Dohad	66	24	25	65	.	...	
	Jhálod	37	12	12	37			
	Total ...	434	146	131	449	...	..	
	Total, Cultural Operations	233,483	62,263	160	293,586	...	6,989	
	Add—Total Regular Plantations	5,663	511	22	6,152	...	2,777	
	Grand Total	239,146	62,774	182	301,738	...	9,766	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Poona, 30th October 1891.

S 745—NC—20

FORM No. 54.

Forest Department, Bombay, Northern Circle.

Outturn (in cubic feet, solid) of Timber and Fuel during the year 1890-91 and Agency of Exploitation.

Division.	Timber in the rough—Logs.					Timber in the rough—Poles.					Sawn or squared Timber.					Miscellaneous.					Fuel.					Total Outturn.
	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	
	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.
North Thána	..	..	..	..	..	1,788	1,125,498	3,088	..	1,130,374	..	..	..	..	..	..	Bamboos No. 111,419	..	..	Bamboos No. 111,419	6,675	1,517,820	..	..	1,524,495	Bamboos No. 111,419 2,655,369 Bamboos No. 202,721 Head-loads.. 3,018 Cart ,, .. 377 2,461,621
South Thána	..	..	..	..	..	58,824	1,619,172	17,625	..	1,686,621	..	..	..	..	..	..	Bamboos No. 202,721 Head-loads.. 3,018 Cart ,, .. 377	..	..	Bamboos No. 202,721 Head-loads.. 3,018 Cart ,, .. 377	76,237	698,762	..	..	775,009	
East Khándesh	..	242,700	..	..	242,700	21,309	..	..	..	21,309	..	..	..	..	..	..	Bamboos No. 380,000	..	..	Bamboos No. 380,000	302,760	1,960,560	..	..	2,263,320	Bamboos No. 380,000 2,527,920
West Khándesh	28,768	..	..	..	28,768	23,456	..	..	..	23,456	..	..	..	..	..	29,073	Bamboos No. 153,270 123,883	..	..	Bamboos No. 153,270 152,961	146,432	100,305	..	..	246,740	Bamboos No. 153,270 451,925
Násik	46,060	387,169	4,964	..	438,193	..	..	..	..	..	..	..	..	..	..	..	Bamboos No. 203,838 Head-loads.. 895 Cart ,, .. 151	..	..	Bamboos No. 203,838 Head-loads.. 895 Cart ,, .. 151	251,829	51,336	19,765	..	322,930	Bamboos No. 203,838 Head-loads.. 895 Cart ,, .. 151 761,179
Ahmednagar	..	..	..	..	..	179,156	..	..	..	179,156	..	..	..	..	..	319	Bamboos No. 28,087 1,045	565	..	Bamboos No. 28,087 1,929	19,223	45,004	..	..	64,227	Bamboos No. 28,087 246,312
Poona	..	97,645	..	..	97,645	51,678	93	3,766	..	55,537	..	..	..	..	..	..	Bamboos No. 104,134	..	..	Bamboos No. 104,134	206,206	19,207	19,645	..	245,063	Bamboos No. 104,134 298,245
Sátára	..	1,391	22	..	1,413	21,060	473	2,141	..	23,674	..	..	..	..	..	..	Bamboos No. 8,200 Head-loads 3,096	..	..	Bamboos No. 8,200 Head-loads.. 3,096	69,736	7,237	1,392	..	78,527	Bamboos No. 8,200 Head-loads.. 3,096 102,614
Bhórápur	1,310	..	..	..	1,310	220	..	..	..	220	..	..	..	..	..	..	130	..	..	130	17,749	1,170	..	..	18,919	20,579
Surat	65,850	34,899	..	..	100,749	58,514	1,883	..	..	60,397	..	..	..	..	..	..	Bamboos No. 483,906 281,700	..	..	Bamboos No. 483,906	..	..	..	..	..	Bamboos No. 483,906 442,846
Panch Maháls	19,292	2,81,992	4,015	..	235,509	4,368	50,787	..	..	55,155	..	..	..	..	..	8,594	Bamboos No. 127,426 Head-loads.. 4 Cart ,, .. 56 61,185	21,112	..	Bamboos No. 127,426 Head-loads.. 4 Cart ,, .. 56 90,891	278,974	291,653	..	..	570,627	Bamboos No. 127,426 Head-loads.. 4 Cart ,, .. 56 962,182
Total	185,286	9,82,606	9,601	..	1,146,293	420,354	2,788,906	27,120	..	3,236,380	..	..	..	..	..	37,986	Bamboos No. 1,803,001 Head-loads.. 7,013 Cart ,, .. 584 467,948	21,677	..	Bamboos No. 1,803,001 Head-loads.. 7,013 Cart ,, .. 584 527,611	1,375,338	4,690,155	40,802	..	6,109,843	Bamboos No. 1,803,001 Head-loads.. 7,013 Cart ,, .. 584 11,020,142

Poona, 30th October 1891.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 55.

Forest Department, Bombay, Northern Circle.

Outturn of Minor Forest Produce.

Division.	Description of Produce.	Produce removed or utilised									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.	Rs.	Rs.		Rs.		Rs.		Rs.
North Thána.	Myrabolans .. Khandis.	..	..	....	650	..	..	..	..	....	650
	A'pta and Temburni leaves ..	..	..	....	993	..	..	..	..	....	993
	Palas leaves	..	..	....	200	..	..	..	..	....	200
	Bel leaves	..	..	....	112	..	..	..	..	....	112
	Brab-tree leaves	..	..	....	1,018	..	..	..	..	....	1,018
	Shembi bark	..	..	....	114	..	..	..	..	....	114
	Gum	..	..	....	352	..	..	..	..	....	352
	Miscellaneous	..	..	....	56	..	..	..	..	....	56
	Bherda nuts	..	..	....	160	..	..	..	..	....	160
	Total ..	..	..	....	3,655	..	..	..	..	....	3,655
South Thána.	Hirda .. .. .. Khandis.	72	2,030	....	..	..	..	..	..	72	2,030
	A'pta and Temburni leaves ..	..	..	....	1,742	..	..	..	..	....	1,742
	Gum	..	..	....	72	..	..	..	..	....	72
	Mango fruits	..	..	....	4	..	..	..	..	....	4
	Kárvi .. .. Cart-loads, &c.	..	..	153	85	..	..	..	..	153	85
	Do. .. .. .. Head-loads.	..	..	47	2	..	..	..	..	47	2
	Thorns .. .. Cart-loads.	..	..	30	30	..	..	..	..	30	30
	Dead palm trees	..	..	4	2	..	..	..	..	4	2
	Cess on palm trees	..	..	....	9	..	..	..	..	....	9
	Total ..	..	2,030	....	1,946	..	..	..	..	....	3,976
East Khándesh.	Stones .. .. Cart-loads.	..	..	2,217	303	..	..	..	..	2,217	303
	Thorns .. .. do.	..	..	3,627	244	..	..	..	..	3,627	244
	Manure .. .. do.	..	..	154	43	..	..	..	..	154	43
	Anjan leaves .. Head-loads.	..	..	223	14	..	..	..	..	223	14
	Rosha grass stills .. .. No.	..	..	2	50	..	..	..	..	2	50
	Mango fruits	..	..	....	6	..	..	..	..	....	6
	Miscellaneous	..	..	....	304	..	..	..	..	....	304
	Total ..	..	..	....	964	..	..	..	..	....	964
West Khándesh.	Rosha grass stills .. .. No.	..	..	175	11,267	..	..	..	..	175	11,267
	Reeds and Kárvi, &c. Cart-loads.	..	..	848	106	..	..	..	..	848	106
	Thorns .. .. do.	..	..	355	26	..	..	..	..	355	26
	Stones .. .. do.	..	..	1,085	181	..	..	..	..	1,085	181
	Do. (lime) .. do.	..	..	165	21	..	..	..	..	165	21
	Earth .. .. do.	..	..	314	39	..	..	..	..	314	39
	Manure .. .. do.	..	..	856	125	..	..	..	..	856	125
	Mango fruits	..	..	....	236	..	..	..	..	....	236
	Miscellaneous	..	..	....	606	..	..	..	..	....	606
	Total ..	..	..	....	12,607	..	..	..	..	....	12,607
Násik.	Hirda .. .. Khandis.	..	..	49	1,959	..	..	..	..	49	1,959
	Kárvi .. .. Head-loads.	..	..	2,047	39	..	..	..	..	2,047	39
	Do. .. .. Cart-loads.	..	..	2	1	..	..	..	..	2	1
	Do. .. .. Cubic feet.	..	..	28,932	172	..	..	..	..	28,932	172
	Rab .. .. Cart-loads.	..	..	4	3	..	..	..	..	4	3
	Do. .. .. Head-loads.	..	..	166	9	..	..	..	..	166	9
	Do .. .. Cubic feet.	..	..	9,439	67	..	..	..	..	9,439	67
	Oman .. .. do.	..	..	1,788	9	..	..	..	..	1,788	9
	Thorns .. .. do.	..	..	1,241	16	..	..	..	..	1,241	16
	Do. .. .. Head-loads.	..	..	12	2	..	..	..	..	12	2
	Stone .. .. Cubic feet.	..	..	18,535	95	..	..	..	..	18,535	95
	Manure	..	..	....	16	..	..	..	..	....	16
	Mango fruits .. .. No.	..	..	1,500	3	..	..	..	..	1,500	3
	Tarwad	..	..	....	68	..	..	..	..	....	68
	A'pta and Temburni leaves ..	..	..	....	526	..	..	..	..	....	526
	Rosha grass stills .. .. No.	..	..	39	409	..	..	..	..	39	409
	Total ..	..	..	....	3,394	..	..	..	..	....	3,394
Ahmad-nagar.	Hirda .. .. Khandis.	102	3,351	....	..	..	..	..	..	102	3,351
	Stones .. .. Cart-loads.	..	..	6,776	485	..	..	..	..	6,776	485
	Kárvi .. .. Head-loads.	..	..	62	2	..	..	..	..	62	2
	Fruits	..	..	....	50	..	..	..	..	....	50
	Tarwad	..	..	....	662	..	..	..	..	....	662
	Bábul pods	..	..	....	243	..	..	..	..	....	243
	Miscellaneous	..	..	....	105	..	..	..	..	....	105
	Total ..	..	3,351	....	1,547	..	..	..	..	....	4,898
Poona.	Hirda .. .. Khandis.	3	56	148	2,993	..	..	..	..	151	3,049
	Shikakai	..	..	....	133	..	200	..	..	....	333
	Tarwad	..	..	....	774	..	..	..	..	....	774
	Kárvi, &c. .. Head-loads.	..	..	2,390	273	..	..	..	..	2,390	273
	Fee on toddy trees .. No.	..	..	560	35	..	..	..	..	560	35
	Stones .. .. Cart-loads.	..	..	821	242	..	4,378	..	..	821	4,620
	Mango fruits	..	..	....	20	..	..	..	..	....	20
	Rab	..	..	....	..	..	500	..	..	....	500
	Total ..	..	56	....	4,470	..	5,078	..	..	....	9,604

FORM No. 55.—*continued.*

Division.	Description of Produce.	Produce removed or utilised									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.
Sátára.	Hirda Khandis.	228	16,339	...	..	..	..	..	..	228	16,339
	Shirkakai	..	..	....	772	..	..	..	..	....	772
	Thorns Head-loads.	..	..	15,873	985	..	..	..	..	15,873	985
	Brushwood .. Do.	..	..	40	2	..	..	..	..	40	2
	Creepers .. Do.	..	..	9	1	..	..	..	..	9	1
	Stones .. .. No.	..	..	720	9	..	..	..	..	720	9
	Do. .. .. Cart-loads.	..	..	6,597	727	..	..	..	..	6,597	727
	Earth .. .. Do ..	..	..	30	5	..	..	..	..	30	5
	Murum .. .. Do. ..	..	..	48	3	..	..	..	..	48	3
	Brushwood .. .. Do. ..	..	..	1,071	105	..	..	..	..	1,071	105
	Aloe leaves .. .. Maunds.	..	..	6	4	..	..	..	..	6	4
	Mango, jack, &c., fruits	..	..	2,337	11	..	..	..	..	2,337	11
	Miscellaneous	..	..	....	45	..	..	..	..	....	45
	Total ..	..	16,339	....	2,669	..	..	..	..	....	19,008
Sholápur.	Bábul bark .. .. Khandis.	9	90	..	..	..	..	..	..	9	90
	Stones .. .. Cart-loads.	..	..	87	44	..	..	..	..	87	44
	Sand .. .. .. Cubic feet.	..	..	4,000	8	..	..	..	..	4,000	8
	Manure	..	..	....	10	..	..	..	..	....	10
	Earth	..	..	....	1	..	..	..	..	....	1
	Tamarind and Kavat fruits ..	..	..	....	33	..	..	..	..	....	33
	Teak leaves	..	..	....	2	..	..	..	..	....	2
	Gum	..	..	....	2	..	..	..	..	....	2
	Total ..	..	90	..	95	..	..	..	..	....	185
Surat.	Temru, Khakar and Ashindra leaves .. bundles.	..	15	12,58,185	301	..	..	..	..	12,58,185	316
	Mhowra .. .. Maunds.	..	..	8,189	516	..	..	..	..	8,189	516
	Boru .. .. .. Cart-loads.	..	..	170	45	..	..	..	..	170	45
	Honey and wax .. Sers.	..	..	1,267	13	..	..	..	..	1,267	13
	Bamboo mats .. .. No.	..	..	4,670	400	..	..	..	..	4,670	400
	Palm trees .. .. .. No.	..	..	28	7	..	..	..	..	28	7
	Rosha grass stills	..	..	....	70	..	..	..	..	....	70
	Miscellaneous	..	..	....	48	..	..	..	..	....	48
	Total ..	..	15	....	1,400	..	..	..	..	....	1,415
Panch Mahals.	Mhowra flowers	..	..	....	1,650	..	..	..	..	....	1,650
	Thorns .. .. Cart-loads.	..	..	13	4	..	..	..	..	13	4
	Kankar .. .. Do. ..	..	..	48	24	..	..	..	..	48	24
	Fruits, &c.	..	..	...	50	..	..	..	..	....	50
	Earth .. .. Cubic feet.	..	..	32	2	..	..	..	..	32	2
	Total ..	..	..	....	1,730	..	..	..	..	....	1,730

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Poona, 30th October 1891.

FORM No. 56.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1890-91.

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
TIMBER.				
Balance at commencement of the year.				
North Thána ... Junglewood pieces ..	129	360	120	360
South Thána ... Do. ..	24,063	72,189	24,063	72,189
West Khándesh. Teak pieces ..	576	357	2,188	1,357
West Khándesh. Miscellaneous pieces ..	1,612	1,000		
Násik .. Teak logs and rafters ..	40	496	40	496
Sátára .. Do. ..	1	...	2,039	1,019
Sátára .. Junglewood rafters ..	2,038	1,019		
Surat .. Teak logs and rafters.	14,243	30,233	16,259	34,312
Surat .. Do. beams.	620	2,170		
Surat .. Do. pieces.	273	466		
Surat .. Junglewood pieces ..	151	459		
Surat .. Sadada ..	189	567		
Surat .. Kanti ..	127	381		
Surat .. Haladwan ..	1	3		
Surat .. Khair ..	77	33		
Surat .. Miscellaneous pieces ..	578	...		
Total Balance ..	..	....	44,709	1,09,733
Received from the forests in Depôts.				
Teak logs and rafters ..	4,26,540	5,99,767		
Do. pieces ..	76,405	71,401		
Do. beams ..	1,389	4,861		
Junglewood rafters ..	15,128	23,029		
Green Teak ..	..	24,812		
Dead do. ..	..	32,562		
Sadada ..	..	509		
Haladwan ..	..	737		
Khair ..	..	136		
Sisam ..	..	275		
Tanach ..	..	612		
Beo ..	..	537		
			5,19,462	7,49,229
Total ..	..	....	5,64,171	8,58,962

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
Sold locally.				
Teak logs and rafters ..	2,32,638	3,65,259		
Do. pieces ..	50,821	75,584		
Do. beams ..	1,839	6,436		
Junglewood pieces ..	7,340	18,462		
Green teak ..	..	24,812		
Dead do. ..	..	32,562		
Sadada ..	189	1,067		
Kanti ..	127	381		
Haladwan ..	1	740		
Khair ..	77	109		
Sisam ..	..	275		
Tanach ..	..	612		
Beo ..	..	537		
Miscellaneous pieces ..	1,782	1,000	294,794	5,27,996
Sold from Depôt.				
Teak rafters ..	1,69,093	1,94,316		
Junglewood pieces ..	2,339	1,978	171,432	1,96,294
Free grants.				
Teak rafters ..	24,536	19,096		
Junglewood pieces ..	2,321	1,164	26,857	20,260
Used by the Department.				
Teak rafters ..	4,482	8,745		
Do. pieces ..	16	50		
Junglewood pieces ..	108	54	4,606	8,849
Lost or written off.				
Teak rafters ..	40	496		
Do. pieces ..	79	....	119	496
Balance at the close of the year.				
North Thána. Junglewood pieces	63	189	63	189
South Thána. Teak pieces ..	15,727	47,181	15,727	47,181
West Khándesh. Teak logs and rafters ..	7,663	4,704		
West Khándesh. Do. pieces ..	34,594	21,448	42,257	26,152
Násik .. Teak rafters ..	2,235	27,714	2,235	27,714
Ahmednagar. Do. ..	9	18	9	18
Sátára .. Junglewood pieces	5,118	2,559	5,118	2,559
Surat .. Teak beams ..	176	595		
Surat .. Do. pieces ..	80	150		
Surat .. Junglewood pieces	561	459	811	1,204
Panch Mahális. Teak rafters ..	143	50	143	50
Total Balance ..	..	....	66,363	1,05,067
Total ..	..	....	564,171	8,58,962

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
FIREWOOD.				
Balance at commencement of the year.				
South Thána .. Firewood Khs.	6,904 0	86,300		
West Khándesh. Do. ..	..	7,000		
Násik .. Do. ..	..	71,774		
Ahmednagar .. Do. ..	..	1,439		
Poona .. Do. ..	..	859		
Sátára .. Do. ..	989 20	44,537		
Surat .. Do. ..	4,145 0	51,812		
Total Balance ..	..	....	12,033 20	2,63,712
Received from the forests in Depôts.				
Firewood ..	18,632 11	17,26,719½		
			18,632 11	17,26,719½
Total, Firewood ..	..	....	30,671 3	19,90,431½

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
Sold locally.				
Firewood .. Khandis.	23,067 17	14,71,999½	23,067 17	14,71,999½
Sold from Depôt.				
Firewood .. Khandis.	511 16	75,863	511 16	75,863
Free grants.				
Firewood .. Khandis.	30 27	38,585	30 27	38,585
Used by the Department.				
Firewood .. Khandis.	..	125	....	125
Lost or written off.				
Firewood .. Khandis.	..	18,000	....	18,000
Balance at the close of the year.				
North Thána .. Firewood ..	266 0	3,325	266 0	3,325
South Thána .. Do. ..	5,904 0	73,800	5,904 0	73,800
West Khándesh. Do. ..	..	2,47,416	....	247,416
Násik .. Do. ..	..	18,025	....	18,025
Ahmednagar .. Do. ..	..	1,439	....	1,439
Sátára .. Do. ..	890 27	40,392	890 27	40,392
Sholápur .. Do. ..	..	1,462½	....	1,462½
Total Balance ..	..	....	7,060 27	385,859½
Total, Firewood ..	..	....	30,671 3	1,990,431½

FORM No. 56—*continued.*

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.	Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
					BAMBOOS.				
Balance at the commencement of the year.					*Sold locally.*				
Sátára ... ... Bamboos ...	558	.....	558	.....	Bamboos	1,242	.....	1,242	.....
Surat ... ... Do. ...	1,230	.....	1,230	.....	*Used by the Department.*				
Total balance ...	...	.....	1,788	.....	Bamboos	1,256	.....	1,256	.....
								2,498	.....
Received from Forests in Depôts.					*Balance at the close of the year.*				
					Surat ... ... Bamboos ...	628	.....	628	.....
Bamboos	1,338	.....	1,338	.....	Total Balance ...	...	.....	628	.....
Total ...	...	.....	3,126	.....	Total ...	...	.....	3,126	.....
					OTHER MINOR PRODUCE.				
Balance at the commencement of the year.		Kh. m. lbs.		Kh. m. lbs.	*Sold locally.*				
					Hirda	...	402 9 14		
South Thána ... { Hirda	...	0 10 0	.....	} 42 10 1	Grass bundles	730	.....		
{ Seed	...	42 0 1	.....		Bábul bark	...	9 10 24	730	411 20 10
Násik ... ... Hirda ...	...	1 5 10	.....	1 5 10	*Used by the Department.*				
Ahmednagar . Seed ...	...	53 7 10	.....	53 7 10	Hirda	...	6 3 10		
Sátára ... ... { Hirda ...	...	19 0 6	.....	} 65 0 14	Seed	...	337 3 2		
{ Seed ...	...	46 0 8	.....					.....	343 6 12
Panch Maháls. Do. ...	...	2 14 20½	.....	2 14 20½	*Lost or written off.*				
					Hirda	...	19 0 1		
Total balance ...	...	.....	.....	164 9 27½				.....	19 0 1
Received from the Forests in Depôt.					*Balance at the close of the year.*			730	773 26 23
					South Thána ... Seed ...	...	40 25 9	.....	40 25 9
					Násik ... ... Hirda ...	...	0 13 20	.....	0 13 20
Hirda	...	503 15 3½			Ahmednagar . { Do. ...	...	48 13 24	.....	} 71 6 12½
Seed	...	304 1 26			{ Seed ...	...	22 22 16½	.....	
Bábul bark	...	9 10 24			Sátára ... ... { Do. ...	...	43 0 9	.....	} 90 18 15½
Grass bundles	730	.....			{ Hirda ...	...	47 18 6½	.....	
			730	816 27 25½	Panch Maháls. Seed ...	...	4 1 1	.....	4 1 1
					Total Balance ...	...	.....	.....	207 11 2
Total ...	...	.....	730	981 9 25	Total ...	...	.....	730	981 9 25

Poona, 30th October 1891.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

B 745—N C—21

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Abstract showing the value of timber and other produce at Sale Depôts for the year 1890-91.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	value.	In favour of the year.	Against the year.	
North Thána Division.			Rs.			Rs.			
Junglewood	120	360	10	63	189	5	...	...	
Firewood ... Khandis	.....	...	...	266	3,325	200	...	...	
Total ...	.....	...	10	.....	...	205	195	...	
South Thána Division.									
Timber pieces	24,003	72,189		15,727	47,181		...	...	
Firewood ... Khandis	6,904	86,300		5,004	73,800		...	...	
	M.		8,200			2,200			
Hirda nuts	10	...		.....	...		...	...	
	K. m. lbs.			K. m. lbs.					
Miscellaneous seeds... ...	42 0 1	...		40 24 0	...		...	...	
Total ...	.....	...	8,200	.....	...	2,200	...	6,000	
East Khándesh Division.									
	K. m. lbs.								
Seeds	7 21 11	...	...	.....	...	...	...	...	
Total ...	.....	...	...	.....	...	...	...	...	
West Khándesh Division.									
Teak pieces	576	357	50	42,197	26,162	4,250	...	...	
Miscellaneous pieces ...	1,612	1,000	80	.....	...	...	...	...	
Fuel	.....	7,000	20	.....	247,416	4,700	...	...	
Total ...	.....	..	150	.....	...	8,950	8,800	...	
Násik Division.									
Teak rafters	40	496	14	2,285	27,714	909	...	...	
Firewood	.....	71,774	1,513	.....	18,025*	...	...	...	* Valueless.
	K. m. lbs.			K. m. lbs.					
Hirda	1 5 10	...	35	0 13 20	...	13	...	...	
Total ...	.....	...	1,562	.....	...	922	...	640	
Ahmednagar Division.									
Teak rafters	.....	...	...	9	18	1	...	...	
Firewood	.....	1,439	48	.....	1,439	48	...	...	
				K. m. lbs.					
Hirda	.....	...	...	48 13 24*	...	...	...	...	To be written off owing to shrinkage.
	K. m. lbs.			K. m. lbs					
Seed	53 7 10	...	...	22 22 16½	...	...	...	...	
Total ...	.....	...	48	.....	...	49	1	..	
Poona Division.									
Firewood	.....	850	9	.....	...	...	...	...	
Total ...	.....	...	9	.....	...	...	...	9	
Sátára Division.									
Teak trees	1	...	2	.....	...	...	...	...	
Junglewood rafters	2,038	1,019	350	5,118	2,559	770	...	...	
	K. m. lbs.			K. m.					
Firewood ... Khandis	989 20 0	44,537	500	890 27	40,092	1,110	...	...	
Bullock-loads of firewood ...	24	270	5	.....	...	...	...	...	
Head-loads of firewood ...	174	990	4	.....	...	...	...	...	
Bamboos	558	...	14	.....	...	...	...	...	
	K. m. lbs.			K. m. lbs.					
Hirda	19 0 6	...	10	47 18 6½*	...	...	...	...	* Dryage.
	K. m. lbs.			K. m. lbs.					
Seed	46 0 8	...	...	43 0 9	...	...	...	...	
Total ...	.....	...	885	.....	...	1,880	995	...	

FORM No. 57.—*continued.*

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.	
Sholápur Division.			Rs.			Rs.			
Firewood	.....	...	...	.....	1,462½	106	...	...	
Total ...	.....	...	...	.....	...	106	106	..	
Surat Division.									
	K.			K.					
Teak logs ... Khandis	4,145	51,812½	60,000	5,416	67,700	80,000	...	...	
Teak pieces	15,048	...	6,900	245	...	233	...	...	
Bamboos	1,230	..	15	.....	...	...	...	...	
Miscellaneous	578	...	1,000	.....	...	...	...	...	
Teak knees	79	...	40	.....	...	...	...	...	
Khair pieces	77	...	150	.....	...	...	...	...	
Teak disks	5	...	1	5	...	1	..	...	
Junglewood pieces	201	...	100	444	..	200	...	...	
Sadado pieces	189	...	180	.....	...	...	...	...	
Kanti pieces	127	...	123	.....	...	...	...	...	
Haladwan pieces	1	...	1	.....	...	...	...	...	
Total ...	.....	...	68,510	.....	...	80,434	11,924	...	
Panch Mahals Division.									
Teak rafters	.....	...	...	143	...	7	...	...	
	K. m. lbs.			K. m. lbs.					
Seeds	2 24 20½	...	80	4 1 ½	...	113	...	...	
Total ...	.....	...	80	.....	...	120	40	...	
Grand Total ...	.....	...	79,454	.....	...	94,866	22,061	6,649	

Net difference in favour of the year, Rs. 15,412.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Poona, 30th October 1891.

FORM No. 57A.

Forest Department, Bombay, Northern Circle.

Abstract showing the value of live and dead stock for the year 1890-91.

Description of live and dead stock.	On hand at commencement of the Year		On hand at close of the year		Difference in Value		Remarks
	Number	Value	Number	Value	In favour of the year.	Against the year	
		Rs.		Rs.	Rs.	Rs	
North Thána Division.							
Parol bungalow	1	1,200	1	1,200	...	...	
Náka house at Mándvi	1	250	1	250	...	...	
Do. at Mánkpur ...	1	603	1	603	...	...	
Forest-stations ...	38	570	38	570	...	...	
Do. posts .	82	840	82	840	...	...	
Office tent	1	273	1	273	...	...	
Do.	1	433	1	433	...	...	
Small ráutis	2	188	2	188	...	...	
Great coats	226	1,359	226	1,359	...	...	
Tools, plant and office furniture ...	...	2,026	...	2,601	...	...	
Total ...	...	8,342	...	8,320	...	22	
South Thána Division							
Office tent	1	433	1	433	...	...	
Small ráutis	2	186	2	186	...	...	
Great coats	263	1,713	263	1,713	...	...	
Tools, plant and office furniture ...	...	838	...	838	...	...	
Total ...	...	3,170	...	3,170	...	...	
East Khándesh Division							
Office tent	1	218	1	248	...	...	
Great coats	192	1,254	192	1,254	...	. .	
Tools, plant and office furniture ..	...	663	...	770	...	..	
Total ...	.	2,165	...	2,272	107	...	
West Khándesh Division.							
Office tent	1	387	1	387	...	...	
Cabul pál	1	126	1	126	...	...	
Great coats	219	1,428	219	1,428	...	...	
Tools, plant and office furniture	...	5,322	...	5,931	...	. .	
Total ...	...	7,263	...	7,872	609	...	
Násik Division							
Office tents	2	300	2	300	...	...	
Great coats	303	1,976	303	1,976	...	...	
Tools, plant and office furniture .	...	258	...	258	...	...	
Total ...	.	2,534	...	2,534	...	...	
Ahmednagar Division							
Hill tent, 13′ × 13′	...	...	1	387	...	...	
Sleeping pál 12′ × 12′ double fly ...	1	216	1	216	...	...	
Office room, Range Forest Officer, Kurjat.	1	214	1	214		...	
Hirda depôt at Singanwádi ...	1	25	1	25	.	...	
Forest rest-houses ...	3	90	3	90	...	...	
Great coats .	208	1,357	208	1,357	...	...	
Tools, plant and office furniture .	...	986	...	986	...	...	
Total .	. .	2,918	...	3,305	387	...	

Description of live and dead stock.	On hand at commencement of the Year.		On hand at close of the Year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
Poona Division.		Rs		Rs.	Rs.	Rs.	
Office tent	1	273	1	273	...	. .	
Range Forest Officer's offices ...	5	7,752	5	7,752	...	...	
Great coats	313	2,040	313	2,040	...	...	
Tools, plant and office furniture ...	...	570	...	922	...	...	
Total ..	...	10,635	...	10,987	352	. .	
Sátára Division.							
Bungalow at Malcolmpeth ...	1	700	1	700	...	...	
Pál with double fly	1	245	1	245	..	. .	
Great coats...	246	1,606	246	1,606	. .	...	
Tools, plant and office furniture ...	. .	825	...	969	...	...	
Total ...	...	3,376	..	3,520	144	...	
Sholápur Division							
Office tent	*1	100	...	...	...	...	*Sold.
Do.	1	387	1	387	...	...	
Great coats	119	777	119	777	...	...	
Tools, plant and office furniture ...	...	231	...	231	.	...	
Total ...	...	1,495	...	1,395	...	100	
Surat Division.							
Office tent, 12 feet	1	246	1	246	...	...	
Do. 13 x 13 feet	...	...	1	433	...	...	
Andhatri bungalow	1	291	1	291	...	...	
Dhadhawada do.	1	80	1	80	...	...	
Tárápore do.	1	100	1	100	...	...	
Large Waghai do.	1	1,099	1	1,099	...	...	
Small do. do.	1		1				
Large Pimpri do.	1	499	1	499	...	...	
Do. Garvi do.	1	1,012	1	1,012	...	...	
Small do. do.	1	288	1	288	...	...	
Great coats...	65	455	65	455	...	...	
Tools, plant and office furniture ...	...	1,807	...	1,837	...	...	
Total ...	..	5,877	...	6,340	463	...	
Panch Mahals Division.							
Rest-houses and depôts... ..	34	2,410	34	2,410	...	...	
Bungalow	1	8,200	1	8,200	...	...	
Office tent	†1	273	1	433	...	...	†Sold for Rs. 26
Great coats...	110	717	110	717	...	...	
Tools, plant and office furniture ...	...	966	...	1,159	...	...	
Total .	..	12,566	..	12,919	353	...	
Working Plans Division.							
Office tent	1	285	1	285	...	...	
Tools, plant and office furniture ...	.	1,086	...	1,103	...	...	
Total ...	...	1,371	...	1,388	17	...	

Poona, 30th October 1891.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

745—NC—22

FORM No. 58.

Forest Department, Bombay, Northern Circle.

Summary of Revenue and Expenditure of the different Divisions during the year 1890-91.

Budget Heads.	Direction.	North Thána.	South Thána.	East Khándesh.	West Khándesh.	Ahmednagar.	Násik.	Poona.	Sátára.	Sholápur.	Surat.	Panch Mahálas.	Working Plans.	Total for 1890-91.	Budget Estimate.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
REVENUE.															
I.—Timber and other Produce removed from the Forests by Government Agency—															
a. Timber	.....	213 3 7	8,685 15 2	13,947 2 0	36,376 1 0	9,509 2 10	2,606 8 0	26,012 3 6	8,189 4 7	360 8 6	54,948 14 8	3,228 5 0	.....	1,64,147 4 10	1,50,410 0 0
b. Firewood and Charcoal	.....	280 10 0	522 15 0	11,867 10 0	2,986 9 6	758 9 6	3,831 9 6	4,393 6 0	2,210 5 6	1,139 11 9	.....	3,395 12 0	.....	31,387 2 9	42,450 0 0
c. Bamboos	.....	.....	.....	.....	.....	13 8 0	...	.....	0 2 5	.....	4 0 0	2 5 0	.....	19 15 5	.....
d. Sandalwood	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....
e. Grass and other minor produce	.....	.....	2,029 10 10	.....	.....	3,350 13 2	...	55 14 0	16,339 4 11	90 7 3	14 14 6	.....	.....	21,881 0 8	31,000 0 0
II.—Timber and other produce removed from the Forests by Consumers or Purchasers—															
a. Timber	.....	2,69,773 3 3	1,19,251 4 1	4,928 10 0	10,110 5 6	242 8 0	16,816 13 5	202 7 0	777 15 2	124 8 0	37,785 12 2	47,246 12 2	.....	5,07,260 2 9	4,93,315 0 0
b. Firewood and Charcoal	.....	5,173 0 0	1,721 9 6	10,831 5 9	3,346 6 6	2,965 15 7	1,670 8 11	6,130 15 3	283 8 6	830 7 8	253 9 0	1,992 2 8	.....	35,219 9 4	21,265 0 0
c. Bamboos	.....	9,294 2 10	5,609 10 9	4,659 14 8	1,755 4 3	287 3 7	5,041 9 5	1,102 6 3	708 2 0	.....	10,949 3 0	1,666 7 6	.....	41,074 0 3	40,055 0 0
d. Grazing and Fodder grass	.....	7,232 9 6	7,320 3 9	58,527 6 10	81,274 11 3	35,688 0 9	56,628 14 1	55,116 4 3	39,143 13 2	18,755 11 0	976 4 8	6,309 15 6	.....	3,61,987 14 3	3,34,310 0 0
e. Other minor produce	.....	3,654 15 3	1,945 15 6	964 6 0	12,606 14 3	1,548 9 9	2,393 13 2	4,469 15 0	2969 1 0	95 3 3	1,400 3 10	1,730 2 8	.....	34,477 4 8	33,550 0 0
III.—Confiscated, Drift and Waif Wood	.....	1,216 15 9	1,379 5 3	167 2 6	628 10 4	165 7 11	327 2 11	184 13 9	244 13 10	47 2 9	3,683 6 3	57 0 4	.....	8,102 1 7	6,470 0 0
IV.—Revenue from Forests not managed by Government—															
a. Duty on foreign timber and other forest produce	.....	.....	.....	14,625 6 3	13,853 12 6	.....	0 3 9	.....	.....	.....	.....	.....	.....	28,479 6 6	29,400 0 0
b. Revenue from shared and private forests	.....	3,986 7 11	858 7 5	.....	.....	.....	...	339 1 7	.....	.....	169 12 8	.....	.....	4,653 13 7	5,300 0 0
V.—Miscellaneous—															
a. Fines and Forfeitures	.....	50 0 0	3,441 3 9	0 7 4	.....	.....	57 13 0	993 11 3	0 10 6	7 14 4	2 4 0	265 4 5	.....	4,819 4 7	3,230 0 0
b. Refunds	.....	65 5 3	51 0 10	8 14 0	6 14 0	4 8 8	27 1 10	29 12 11	11 14 0	78 15 1	42 13 4	.....	.....	327 3 11	.....
c. Other sources	.....	5,282 13 5	898 12 10	1,805 2 2	1,926 14 2	880 4 4	526 1 2	147 0 6	85 3 11	82 10 9	1,188 12 11	895 0 0	0 14 0	13,689 10 2	9,245 0 0
Total Revenue	.....	3,05,473 6 3	1,53,716 2 8	1,17,333 7 6	1,64,872 7 3	55,412 12 1	90,998 3 2	99,197 15 3	70,664 3 6	21,613 4 4	1,11,419 15 0	66,799 4 3	0 14 0	12,57,501 15 3	12,02,000 0 0
EXPENDITURE.															
A.—Conservancy and Works.															
I.—Timber and other Produce removed from the Forests by Government Agency—															
a. Timber	.....	204 0 3	1,713 15 10	1,455 2 9	3,296 3 5	1,627 1 6	347 12 0	3,388 10 0	1,384 13 1	24 0 6	31,305 7 6	1,340 7 5	.....	46,067 10 3	40,052 0 0
b. Firewood and Charcoal	.....	58 6 0	125 8 0	2,078 5 6	2,005 1 9	24 1 0	1,119 3 6	1,271 2 6	781 4 9	140 7 9	.....	.....	.....	7,603 8 9	9,359 0 0
c. Bamboos	.....	.....	.....	.....	.....	6 7 6	...	.....	0 4 0	.....	.....	.....	.....	6 11 6	.....
d. Sandalwood	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....
e. Grass and other minor produce	.....	37 0 0	501 15 2	.....	.....	903 2 6	28 11 3	40 9 0	5,213 1 0	.....	.....	.....	.....	6,724 6 11	12,483 0 0
II.—Timber and other produce removed from the Forests by Consumers or Purchasers	.....	8,141 8 5	2,776 14 4	4,919 2 7	5,342 11 1	294 1 0	2,183 13 6	1,379 11 3	2,250 13 3	1 8 0	2,282 9 0	491 8 9	.....	31,064 5 2	29,370 0 0
III.—Confiscated, Drift and Waif Wood	.....	27 4 6	42 11 6	2 3 11	13 6 0	0 4 6	0 6 0	6 5 0	.....	2 2 2	0 3 6	1 2 0	.....	96 1 1	264 0 0
IV.—Revenue from Forests not managed by Government—															
a. Duty on foreign timber and other forest produce	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests	.....	.....	.....	.....	.....	.....	...	170 9 11	.....	.....	.....	.....	.....	170 9 11	200 0 0

V.—*Rent of Leased Forests and Payments to Shareholders in Forests managed by Government*	.....	.....	252 8 0	.....	.....	2 12 0	5 2 6	1,083 13 3	3,343 10 1	.....	13,019 4 3	.....	.....	17,723 7 1	18,590 0 0
VI.—*Live Stock, Stores, Tools and Plant*—															
a. Purchase of Cattle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Feed and keep of Cattle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
c. Stores, Tools and Plant	.....	351 4 0	225 8 0	96 4 0	.....	86 9 0	438 4 0	26 10 3	105 8 6	11 4 0	.....	.....	.....	1,339 3 9	1,510 0 0
VII.—*Communications and Buildings*—															
a. Roads and Bridges	.....	.....	40 0 0	.....	20 0 0	47 2 6	.....	.....	136 10 0	.....	282 8 3	.....	.....	526 4 9	950 0 0
b. Buildings	.....	471 11 0	345 14 6	300 11 0	818 12 8	3 0 0	401 15 0	110 13 9	151 6 6	8 11 3	179 7 2	252 9 2	.....	3,045 2 0	6,093 0 0
c. Other Works	.....	.....	.....	1 0 0	.....	11 1 0	.....	.....	.....	.....	5 8 6	.....	.....	17 9 6	.....
VIII.—*Demarcation, Improvement and Extension of Forests*—															
a. Demarcation	.....	2,335 14 0	613 15 6	108 6 0	8,010 4 7	2,559 3 3	2,902 10 3	3,132 11 7	1,239 13 8	408 3 4	978 1 11	816 5 6	.....	23,106 9 7	30,578 0 0
b. Compensation for Land and Rights	.....	.....	19,076 3 6	1,682 10 8	.....	1,373 10 10	.....	301 4 0	.....	452 10 0	.....	.....	.....	23,086 7 0	20,390 0 0
c. Surveys and Working Plans	.....	433 2 6	8,898 9 5	3 6 0	229 5 0	478 10 0	307 2 0	25,181 6 6	473 9 9	324 15 6	39 14 2	458 4 0	16,619 6 8	53,447 11 6	54,900 0 0
d. Plantations	.....	715 0 8	1,277 6 3	348 1 5	868 8 10	1,509 7 11	2,109 12 9	1,241 11 6	456 12 6	1,021 5 3	8 7 1	209 15 9	.....	9,766 10 0	15,980 0 0
e. Protection from Fire	.....	751 2 9	588 12 0	95 0 6	173 6 0	.....	102 8 0	63 0 0	.....	.....	11 13 0	1 0 0	.....	1,786 10 3	3,996 0 0
f. Other Works	.....	905 6 9	132 13 6	11 12 0	.....	4,822 2 9	502 1 0	7,289 0 3	118 2 3	3,239 15 7	14 0 0	.....	.....	17,015 6 1	5,200 0 0
IX.—*Miscellaneous*—															
a. Refunds	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Law Charges	.....	285 13 0	203 5 2	.....	.....	0 6 0	.....	184 10 8	.....	.....	5 14 6	.....	.....	689 1 4	190 0 0
c. Other Charges	.....	220 13 9	139 0 3	385 6 3	2,141 13 7	305 4 5	168 14 9	18 14 6	1,003 2 6	3 10 7	171 6 4	20 11 3	.....	4,579 2 2	2,014 0 0
Total, A.—Conservancy and Works	.....	14,938 7 7	37,983 0 11	11,487 8 8	22,919 8 11	14,254 7 8	10,618 9 6	44,851 1 11	16,658 15 10	5,638 13 11	48,295 9 2	3,591 15 10	16,619 6 8	2,47,857 10 7	2,62,000 0 0
B.—ESTABLISHMENTS.															
I.—*Salaries*—															
a. Conservators	20,708 2 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20,708 2 9	18,000 0 0
b. Superior Officers	.....	9,735 4 2	9,396 5 6	10,800 0 0	9,596 12 5	6,909 10 10	9,645 2 7	12,758 2 10	10,517 1 7	6,600 0 0	4,733 5 4	6,600 0 0	.....	97,271 13 3	89,500 0 0
c. Subordinate Forest and Depôt Establishments	.....	25,758 0 9	27,983 12 10	22,491 9 1	21,046 1 7	24,007 5 7	30,309 1 6	34,500 8 3	28,399 7 1	12,708 6 3	8,346 13 6	11,936 9 8	.....	2,47,467 3 1	2,58,475 0 0
d. Office Establishments	6,854 9 7	3,611 8 9	3,179 9 8	2,193 13 10	2,516 8 9	2,062 2 11	2,558 10 1	2,676 6 6	2,558 9 4	1,862 1 6	1,939 9 2	1,981 3 7	.....	33,385 14 8	33,815 0 0
e. Deputation and Special Allowances	435 14 0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	435 14 0	1,740 0 0
II.—*Travelling Allowances*—															
a. Conservators	2,356 7 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,356 7 2	2,400 0 0
b. Superior Officers	.....	3,684 13 3	2,959 2 8	1,800 0 0	2,174 10 5	1,800 0 0	2,216 10 5	2,562 13 8	2,462 14 5	1,800 0 0	1,859 6 6	1,800 0 0	.....	25,111 7 4	25,200 0 0
c. Subordinate Forest and Depôt Establishments	.....	993 11 3	1,180 13 2	1,692 11 1	1,247 4 4	1,686 6 4	1,837 10 11	1,698 6 8	1,782 4 3	917 4 1	858 1 1	723 1 7	.....	14,617 10 9	14,525 0 0
d. Office Establishments	2,012 1 5	959 4 9	1,062 9 1	768 1 2	835 7 5	764 10 9	1,028 1 0	964 4 7	915 2 6	680 12 11	716 8 7	662 7 8	.....	11,360 7 1	11,460 0 0
III.—*Contingencies*—															
a. Stationery	28 12 0	321 3 8	358 9 6	363 9 9	330 0 4	368 13 3	475 5 0	392 14 6	482 9 6	202 4 3	193 8 6	191 5 11	.....	3,709 0 2	4,400 0 0
b. Carriage of Tents and Records	426 14 9	481 13 0	327 2 6	180 0 0	318 10 0	187 1 0	347 10 0	289 4 6	318 5 0	94 9 0	214 7 3	148 1 9	.....	2,333 14 9	3,126 0 0
c. Rents, Rates and Taxes	440 0 0	212 0 11	174 15 6	296 0 0	355 0 0	352 7 9	105 3 7	252 0 0	37 8 0	100 0 6	8 7 6	.....	.....	2,411 3 3	2,560 0 0
d. Pay of Police Guards	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
e. Official Postage	462 8 6	630 5 6	833 3 0	663 0 0	780 10 0	618 14 6	1,048 6 0	771 7 6	319 13 6	313 15 6	256 4 6	.....	.....	7,613 5 6	6,750 0 0
f. Sundries	783 8 9	63 8 2	1,562 14 2	874 8 1	1,790 15 4	1,170 11 3	4,090 4 4	883 2 9	1,288 13 4	209 5 7	760 15 2	771 1 0	.....	14,089 11 11	30,400 0 0
Payments to Officers of other Provinces	3,975 12 0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,975 12 0	.....
Total, B.—Establishments	38,522 10 11	45,842 10 2	48,930 1 7	42,125 5 0	40,902 0 7	39,926 3 11	53,652 1 5	57,873 6 3	49,534 2 6	25,432 0 7	20,027 10 1	25,078 10 8	.....	4,87,846 15 8	5,02,500 0 0
Grand Total of Expenditure	38,522 10 11	60,781 1 9	86,913 2 6	53,612 13 8	63,821 9 6	54,180 11 7	64,270 10 11	1,02,724 8 2	66,193 2 4	31,070 14 6	68,323 3 3	28,670 10 6	16,61 6 8	7,35,704 10 3	7,64,500 0 0

Bombay, 8th August 1891.

G. H. R. HART,
Officiating Accountant General.

FORM No. 59.

Forest Department, Bombay.—Northern Division.

Account Current for the year 1890-91.

	Rs.	a.	p.	Rs.	a.	p.		Rs.	a.	p.	Rs.	a.	p.
To Opening Balance	.....			1,564	1	2	By 1.—Refunds and Drawbacks— Refunds, Divided Heads Forests ...	.....			10,909	12	4
„ VIII.—Assessed Taxes—Income Tax— Deductions by Government from Salaries and Pensions ...	.. ...			4,609	14	4	„ 11.—Forests (as per Annual Summary Form No. 58)	.....			7,35,704	10	3
„ IX.—Forest (as per Annual Summary Form No. 58)	.....			12,57,501	15	3	„ 19.—Law and Justice— Refunds	.....			18	0	0
„ XII.—Interest—Interest on Arrears of Revenue	....			87	5	10	„ Revenue Deposits— (Forests)	... ..			39,859	12	7
„ XVI.—Law and Justice— Fees, Fines, Forfeitures, &c.— Magisterial fines	.....			90	11	6	„ Cheques and Bills—(Departmental Cheques) Cancelled Cheques ...	.....			2,360	11	4
„ XIX.—Education— Miscellaneous— Local sale proceeds of books ...	.....			3	0	0	„ Advances Recoverable— Forest Advances	4,23,968	7	6			
							Tentage Advances	400	0	0			
							Objection Book Advances... ...	2,519	5	9			
											4,26,887	13	3
„ XXIII.—Stationery and Printing— Stationery Receipts— Sale proceeds of stationery boxes.	.....			1	0	0	„ Cash Recoveries	.....			13,627	1	6
Other Press Receipts— Government Central Press ...	.....			9	4	6	„ Forest Remittances— Remittances to Treasuries ...	13,03,348	14	5			
							Inter-divisional Transfers... ...	78,575	14	9			
							Inter-departmental Transfer ..	554	7	8			
											13,82,479	4	10
„ XXXII.—Civil Works in charge Civil Officers— Road-side Trees Receipts ...	.....			239	7	0	„ Account between Bombay and Public Works Department, Bombay— Ordinary Branches— IV.—Items adjustable by Public Works Department—Inter-departmental Charges	.....			857	7	0
„ Revenue Deposits—(Forests)	.....			52,645	8	10							
„ Cheques and Bills—(Departmental Cheques)— (Forest)	.....			8,04,824	0	9							

„ Advances Recoverable—							„ Ditto Payments of compensation of lands taken up for Public Works purposes			77	8 0
Forest Advances	4,22,872	1	1								
Tentage Advances	11	1	9								
Objection-Book Advances	1991	2	8								
				4,24,871	5	6	„ Ditto Miscellaneous			21	6 2
„ Cash Recoveries	.....			13,627	1	6					
„ Forest Remittances—							„ Cash Balance			678	8 6
Remittances to Treasuries	270	8	0								
Inter-divisional Transfers	38,642	15	11								
Inter-departmental Transfers	11,122	13	9								
				50,036	5	8					
„ Bombay Uncovenanted Service Family Pension Fund, Widows' Branch ...	.....			1,955	3	6					
„ Account between India and Bombay—											
III.—Items adjustable by India—											
Bengal Military Fund	.....			540	0	0					
Do do. Orphan Fund ..	....			234	0	0					
Bengal Uncovenanted Service Family Pension Fund	.....			23	10	0					
Miscellaneous	.....			4	0	0					
„ Account between Bombay and Public Works Department, Bombay—											
IV.—Payments into Treasuries by Civil Officers on account of Public Works Department	.....			533	8	5					
Ditto Miscellaneous	.....			77	8	0					
Total ...	.....			26,13,481	15	9	Total .	.....		26,13,481	15 9

No. $\frac{F.}{1892}$

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 8th August 1891.

G. H. R. HART,
Officiating Accountant General.

745—NC—23

FORM No. 60.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Revenue received and Outstandings on account of Revenue during 1890-91.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
North Thána ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	.....	213 3 7	213 3 7	213 3 7	.....	
	b Firewood and Charcoal	.....	280 10 0	280 10 0	280 10 0	.....	
	c Bamboos	.....	.....	... ..	.....	.....	
	d Sandalwood...	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ..	.....	.....	... .	.....	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	2,69,773 3 3	2,69,773 3 3	2,69,773 3 3	.....	
	b. Firewood and Charcoal	.....	5,173 0 0	5,173 0 0	5,173 0 0	.....	
	c. Bamboos	.....	9,294 2 10	9,294 2 10	9,294 2 10	.....	
	d. Grazing and Fodder grass ...	.....	7 232 9 0	7,232 9 0	7,232 9 0	.....	
	e. Other minor produce	.....	3,654 15 3	3,654 15 3	3,654 15 3	.....	
	III.—Drift and Waif wood, and Confiscated forest produce	.....	1,216 15 9	1,216 15 9	1,216 15 9	.....	
	Total .	.....	2,96,838 11 8	2,96,838 11 8	2,96,838 11 8	.....	
South Thána ..	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a Timber	.....	8,685 15 2	8,685 15 2	8,685 15 2	.....	
	b Firewood and Charcoal	.. ...	522 15 0	522 15 0	522 15 0	.....	
	c. Bamboos	.....	.....	... .	.....	.....	
	d Sandalwood	.....	. ...	... .	.....	.. ...	
	e. Grass and other minor produce ..	.....	2,029 10 10	2,029 10 10	2,029 10 10	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers ..						
	a. Timber	66 9 0	1,19,251 4 1	1,19,317 13 1	1,19,251 4 1	66 9 0	
	b. Firewood and Charcoal	. ...	1,721 9 6	1,721 9 6	1,721 9 6	.....	
	c. Bamboos	.....	5,609 10 9	5,609 10 9	5,609 10 9	.....	
	d. Grazing and Fodder grass ...	.....	7,320 3 9	7,320 3 9	7,320 3 9	.....	

	e. Other minor produce	.....		1,945	15	6	1,945	15	6	1,945	15	6	.....	
	III.—Drift and Waif wood, and Confiscated forest produce.	.....		1,379	5	3	1,379	5	3	1,379	5	3	.....	
	Total ...	66	9	0	1,48,466	9	10	1,48,533	2	10	1,48,466	9	10	66	9	0
East Khándesh.	*I.—Timber and other Produce removed from the Forests by Government Agency—*													
	a. Timber	.....		13,947	2	0	13,947	2	0	13,947	2	0	...	
	b. Firewood and Charcoal	.....		11,867	10	0	11,867	10	0	11,867	10	0	.....	
	c. Bamboos	.....		.....			.....			.....			.....	
	d. Sandalwood	.....		.....			.....			.....			.....	
	e. Grass and other minor produce ..	.....		.....			.....			.....			.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—													
	a. Timber	.....		4,928	10	0	4,928	10	0	4,928	10	0	.....	
	b. Firewood and Charcoal	.....		10,831	5	9	10,831	5	9	10,831	5	9	.....	
	c. Bamboos	.....		4,659	14	8	4,659	14	8	4,659	14	8	.....	
	d. Grazing and Fodder grass ...	*13	13	0	53,520	0	10	53,533	13	10	53,527	6	10	.....
	e. Other minor produce	.....			964	6	0	964	6	0	964	6	0	.....
	III.—Drift and Waif wood, and Confiscated forest produce	.....			167	2	6	167	2	6	167	2	6	... .
	Total ...	13	13	0	1,00,886	3	9	1,00,900	0	9	1,00,893	9	9	.....
West Khándesh.	*I.—Timber and other Produce removed from the Forests by Government Agency—*													
	a. Timber	.....			36,376	1	0	36,376	1	0	36,376	1	0	.....
	b. Firewood and Charcoal	.....			2,986	9	6	2,986	9	6	2,986	9	6	.....
	c. Bamboos	.....			.....			.....			.....			.....
	d. Sandalwood	.....			.....			.....			.....			.....
	e. Grass and other minor produce ...	.....			.....			.....			.....			.....
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—													
	a. Timber	.....			10,110	5	6	10,110	5	6	10,110	5	6	.....
	b. Firewood and Charcoal	.....			3,346	6	6	3,346	6	6	3,346	6	6	.....
	c Bamboos	.....			1,755	4	3	1,755	4	3	1,755	4	3	.....
	d. Grazing and Fodder grass ...	.....			81,274	11	3	81,274	11	3	81,274	11	3	.....
	e. Other minor produce	.....			12,606	14	3	12,606	14	3	12,606	14	3	.....
	III.—Drift and Waif wood, and Confiscated forest produce	.....			628	10	4	628	10	4	628	10	4	.....
	Total ...	.....			1,49,084	14	7	1,49,084	14	7	1,49,084	14	7	.....

*Out of this sum Rs. 6-7-0 written off.

FORM No. 60.—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Násik	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	1,922 9 6	1092 12 6	3,015 6 0	2,666 8 0		
	b. Firewood and Charcoal	13 6 0	3,818 3 6	3,831 9 6	3,831 9 6	348 14 0	
	c. Bamboos	.....	.....	.....	.....	.....	
	d Sandalwood	.....	.....	.....	.....	.....	
	e Grass and other minor produce ...	.....	.....	.....	.....	.. ...	
						... ..	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	17,125 13 5	17,125 13 5	16,816 13 5	309 0 0	
	b. Firewood and Charcoal	.....	1,670 8 11	1,670 8 11	1,670 8 11	.....	
	c. Bamboos	.....	5,041 9 5	5,041 9 5	5,041 9 5	.....	
	d. Grazing and Fodder grass ...	166 7 6	56,476 2 7	56,642 10 1	56,638 14 1	3 12 0	
	e. Other minor produce	20 0 0	3,673 13 2	3,693 13 2	3,393 13 2	300 0 0	
	III.—Drift and Waif wood, and Confiscated forest produce	3 4 3	323 14 8	327 2 11	327 2 11	.....	
	Total ..	2,125 11 3	89,222 14 2	91,348 9 5	90,386 15 5	961 10 0	
Ahmednagar ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a Timber	19 3 6	9,489 15 4	9,509 2 10	9,509 2 10	.....	
	b Firewood and Charcoal	1 1 0	757 8 6	758 9 6	758 9 6	.....	
	c. Bamboos	.....	13 8 0	13 8 0	13 8 0	.....	
	d Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	3,350 13 2	3,350 13 2	3,350 13 2	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	242 8 0	242 8 0	242 8 0	.....	
	b. Firewood and Charcoal	.....	3,120 15 7	3,120 15 7	2,965 15 7	155 0 0	
	c. Bamboos	.....	287 3 7	287 3 7	287 3 7	.....	
	d. Grazing and Fodder grass ...	24 0 0	35,664 0 9	35,688 0 9	35,688 0 9	.....	

	e. Other minor produce	370 12 0	1,175 13 9	1,546 9 9	1,546 9 9	.....
	III.—Drift and Waif wood, and Confiscated forest produce...	.....	165 7 11	165 7 11	165 7 11	.....
	Total ...	415 0 6	54,267 14 7	54,682 15 1	54,527 15 1	155 0 0
Poona	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	.....	26,012 3 6	26,012 3 6	26,012 3 6	.....
	b. Firewood and Charcoal	.....	4,393 6 0	4,393 6 0	4,393 6 0	.....
	c. Bamboos	.....	.....	.....	.....	.....
	d. Sandalwood	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	55 14 0	55 14 0	55 14 0	.....
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—					
	a. Timber	.....	202 7 0	202 7 0	202 7 0	.....
	b. Firewood and Charcoal	.....	6,150 15 3	6,150 15 3	6,150 15 3	.....
	c. Bamboos	.....	1,102 6 3	1,102 6 3	1,102 6 3	.....
	d. Grazing and Fodder grass ...	.....	55,177 4 3	55,177 4 3	55,116 4 3	61 0 0
	e. Other minor produce	2 12 0	4,467 3 0	4,469 15 0	4,469 15 0	.....
	III.—Drift and Waif wood, and Confiscated forest produce	.....	184 13 9	184 13 9	184 13 9	.....
	Total ...	2 12 0	97,746 9 0	97,749 5 0	97,688 5 0	61 0 0
Sátára	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	.....	8,189 4 7	8,189 4 7	8,189 4 7	.....
	b. Firewood and Charcoal	.....	2,210 5 6	2,210 5 6	2,210 5 6	.....
	c. Bamboos	.....	0 2 5	0 2 5	0 2 5	.....
	d. Sandalwood	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	16,339 4 11	16,339 4 11	16,339 4 11	.....
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—		777 15 2	777 15 2	777 15 2	.....
	a. Timber	.....				
	b. Firewood and Charcoal	.....	283 8 6	283 8 6	283 8 6	.....
	c. Bamboos	.....	708 2 0	708 2 0	708 2 0	.....
	d. Grazing and Fodder grass ...	647 0 0	38,541 10 2	39,188 10 2	39,143 13 2	44 13 0
	e. Other minor produce	.....	2,669 1 0	2,669 1 0	2,669 1 0	.....
	III.—Drift and Waif wood, and Confiscated forest produce	.....	244 13 10	244 13 10	244 13 10	.....
	Total ...	647 0 0	69,964 4 1	70,611 4 1	70,566 7 1	44 13 0

FORM No. 60—*concluded.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sholápur ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	.....	360 8 6	360 8 6	360 8 6	.....	
	b. Firewood and Charcoal	.....	1,139 11 9	1,139 11 9	1,139 11 9	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	91 1 3	91 1 3	90 7 3	0 10 0	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	124 8 0	124 8 0	124 8 0	.....	
	b. Firewood and Charcoal	.....	830 7 8	830 7 8	830 7 8	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Grazing and Fodder grass ...	.....	18,825 11 0	18,825 11 0	18,755 11 0	70 0 0	
	e. Other minor produce	.....	95 3 3	95 3 3	95 3 3	.....	
	III.—Drift and Waif wood, and Confiscated forest produce	.....	47 2 9	47 2 9	47 2 9	.....	
	Total ...	.....	21,514 6 2	21,514 6 2	21,443 12 2	70 10 0	
Surat ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	*23,409 2 8	36,198 14 8	59,608 1 4	54,948 14 8	.....	* Out of this sum Rs. 4,659-2-8 written off.
	b. Firewood and Charcoal	.....	.....	.....	.....	.....	
	c. Bamboos	.....	4 0 0	4 0 0	4 0 0	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	14 14 6	14 14 6	14 14 6	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	10,200 0 0	27,585 12 2	37,785 12 2	37,785 12 2	.....	
	b. Firewood and Charcoal	.....	253 9 0	253 9 0	293 9 0	.....	
	c. Bamboos	.....	10,949 3 0	10,949 3 0	10,949 3 0	.....	
	d. Grazing and Fodder grass ...	.....	976 4 8	976 4 8	976 4 8	.....	
	e. Other minor produce	.....	1,400 3 10	1,400 3 10	1,400 3 10	.....	
	III.—Drift and Waif wood, and Confiscated forest produce	†609 13 3	3,683 6 3	4,293 3 6	3,683 6 3	.....	† Written off.
	Total ...	34,218 15 11	81,066 4 1	1,15,285 4 0	1,10,016 4 1	.....	

Panch Mahals...	*I.—Timber and other Produce removed from the Forests by Government Agency —*															
	a. Timber	.....		3,238	5	0	3,238	5	0	3,238	5	0	.....			
	b. Firewood and Charcoal	.....		3,395	12	0	3,395	12	0	3,395	12	0	.....			
	c. Bamboos	.....		2	5	0	2	5	0	2	5	0	.....			
	d. Sandalwood	.....		.....			.....			.....			.....			
	e. Grass and other minor produce ...	.....		.....			.....			.....			.....			
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—															
	a. Timber	.....		47,246	12	2	47,246	12	2	47,246	12	2	.....			
	b. Firewood and Charcoal	.....		1,992	2	8	1,992	2	8	1,992	2	8	.....			
	c. Bamboos	.....		1,666	7	6	1,666	7	6	1,666	7	6	.....			
	d Grazing and Fodder grass ..	.....		6,309	15	6	6,309	15	6	6,309	15	6	.....			
	e. Other minorproduce	.....		1,730	3	8	1,730	3	8	1,730	3	8	.....			
	III.—Drift and Waif wood and Confiscated forest produce	.....		57	0	4	57	0	4	57	0	4	.....			
	Total ...	.....		65,638	15	10	65,638	15	10	65,638	15	10	.....			
Total, Northern Circle.	*I —Timber and other Produce removed from the Forests by Government Agency—*															
	a. Timber	25,350	15	8	1,43,804	5	10	1,69,155	5	6	1,64,147	4	10	348	14	0
	b. Firewood andCharcoal	14	7	0	31,372	11	9	31,387	2	9	31,387	2	9	.....		
	c Bamboos	.....			19	15	5	19	15	5	19	15	5	.....		
	d. Sandalwood	.....			.....			.....			.....			.....		
	e Grass and other minor produce .	.....			21,881	10	8	21,881	10	8	21,881	0	8	0	10	0
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—															
	a Timber	10,266	9	0	4,97,369	2	9	5,07,635	11	9	5,07,260	2	9	375	9	0
	b. Firewood and Charcoal	.....			35,374	9	4	35,374	9	4	35,219	9	4	155	0	0
	c. Bamboos	...			41,074	0	3	41,074	0	3	41,074	0	3	.....		
	d. Grazing and Fodder grass ...	851	4	6	3,61,318	9	9	3,62,169	14	3	3,61,983	14	3	179	9	0
	e. Other minor produce	333	8	0	34,383	12	8	34,777	4	8	34,477	4	8	300	0	0
	III—Drift and Waif wood, and Confiscated forest produce	613	1	6	8,098	13	4	8,711	14	10	8,102	1	7	.....		
	GRAND TOTAL ...	37,489	13	8	11,74,697	11	9	12,12,187	9	5	12,05,552	8	6	1,359	9	0

NOTE.—The revenue under Budget heads IV and V is Rs. 33,133-4-1 and Rs. 18,816-2-8, respectively. This has not been shown in this statement in detail as there are no outstandings against these heads. The total amount realized during the year is Rs. 12,57,501-15-3 (vide Form No 58).

Poona, 30th October 1891.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Outstanding and Liabilities on account of Contractors and Disbursers for the year 1890-91.

Divisions.	Department Debtor.			Department Creditor.			Balance due.		Remarks.
	At commencement of year.	Recoveries in Cash and Value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Contractors...	Nil.	.....	.....	.....	.....	.....	.....	...	
Total, Contractors ...	Nil.	.....	.....	.....	.....	.....	.....	...	
North Thána		38,606 2 1	38,606 2 1	.....	38,606 2 1	38,606 2 1	.....	...	
South Thána	...	68,374 2 6	68,374 2 6	6 1 10	68,528 4 2	68,534 6 0	160 3 6	...	
East Khándesh	...	32,110 9 10	32,110 9 10	.....	32,122 1 10	32,122 1 10	11 8 0	...	
West Khándesh	..	49,328 2 1	49,328 2 1	159 15 11	49,309 5 4	49,469 5 3	141 3 2	...	
Násik	...	44,846 0 11	44,846 0 11	12 4 10	45,233 14 0	45,246 2 10	400 1 11	...	
Ahmednagar	0 3 6	36,184 8 6	36,184 12 0	239 6 0	36,119 12 8	36,359 2 8	174 6 8	...	
Poona	0 0 10	51,018 11 9	51,018 12 7	0 1 0	51,021 11 7	51,021 12 7	3 0 0	...	
Sátára	...	39,948 1 6	39,948 1 6	.....	39,986 12 3	39,986 12 3	38 10 9	...	
Sholápur	...	16,093 14 6	16,093 14 6	.....	16,178 7 6	16,178 7 6	84 9 0	...	
Surat	...	22,666 14 3	22,666 14 3	1 15 3	22,714 15 0	22,716 14 3	50 0 0	...	
Panch Mahálś	...	17,968 9 2	17,968 9 2	.....	17,968 9 2	17,968 9 2	.....	...	
Working Plans	...	1,759 2 0	1,759 2 0	.....	1,759 2 0	1,759 2 0	.....	...	
Bombay Forest Surveys ...	...	3,967 2 0	3,967 2 0	1,985 10 2	4,419 5 11	6,405 0 1	2,437 14 1	...	
Total, Disbursers ...	0 4 4	4,22,872 1 1	4,22,872 5 5	2,405 7 0	4,23,968 7 6	4,26,373 14 6	3,501 9 1	...	
Grand Total ...	0 4 4	4,22,872 1 1	4,22,872 5 5	2,405 7 0	4,23,968 7 6	4,26,373 14 6	3,501 9 1	...	

No. $\frac{F}{14,804}$

Forwarded to the Conservator of Fosests, Northern Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 8th August 1891.

G. H. R. HART,
Officiating Accountant General.

FORM No. 62.

Forest Department, Bombay, Northern Circle.

Financial Results of the year 1890-91.

Division.	Timber and other Produce removed from the Forests by Government Agency.		Other Revenue.		Formation, Protection and Improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
North Thána	494	2,867	3,04,980	10,736	63,190	3,05,474	76,793	
South Thána	11,239	4,022	1,42,477	5,502	90,321	1,53,716	99,845	
East Khándesh	25,815	4,561	91,519	5,948	46,186	1,17,334	56,695	
West Khándesh	39,363	6,841	1,25,510	6,897	54,706	1,64,873	68,444	
Násik	6,498	2,526	84,500	3,214	61,613	90,998	67,353	
Ahmednagar	13,632	3,076	41,781	809	51,838	55,413	55,723	
Poona	30,462	6,249	68,736	3,126	96,432	99,198	1,05,807	
Sátára	26,739	10,078	43,925	4,950	54,246	70,664	69,274	
Sholápur	1,591	679	20,022	517	31,417	21,613	32,613	
Surat	54,968	38,838	56,452	9,815	22,752	1,11,420	71,405	
Panch Mahál	6,636	2,367	60,163	1,519	27,867	66,799	31,753	
Total ...	2,17,437	82,104	10,40,065	53,033	6,00,568	12,57,502	7,35,705	

Poona 30th October 1891.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

6745—NC—25

No. 4974 of 1891.

Revenue Department.

Ahmedabad, 23rd December 1891.

Forwarded to Government.

2. *Paragraphs 17—19.*—There was a decrease of nearly 125 square miles in the area of the reserved forests of the South Thána Division owing to rectification of errors in the original survey.

3. *Paragraphs 20—54.*—It is to be hoped that the demarcation in the tálukas of Dáhánu, Murbád and Sháhápur of the Thána District may soon be completed. A considerable area was added to reserved forest under Section 19 both in South Thána and the Panch Maháls, but 2,1[illegible] acres in Thána and 12,133 acres in the Panch Maháls are still awaiting enquiry under Section 4, and 272 square miles of the area notified under Section 34 are still awaiting settlement. It is to be hoped that Mr. McIver will soon be able to submit the settlement report of the Málsm Táluka which was left unfinished by Mr. Owen. The report for the Váda Taluka was submitted to Government after the close of the year and disposed of by Government Resolution No. 7389, dated 27th October last.

4. As the Conservator has made a separate report to Government on the point raised by the Government of India, regarding the mode of calculating the cost of forest settlement per square mile, it would seem unnecessary that almost the *ipsissima verba* of that report should have been reproduced in paragraphs 47—57 of his administration report.

5. *Paragraph 55.*—The work of demarcating forest boundaries does not seem to have proceeded in the Thána District with the same vigour as in the preceding year, 66 miles having been marked as against 155, but the natural difficulties may have been greater.

6. *Paragraph 59.*—There is a good deal of force in the remarks regarding the abuse of the concession allowed to villagers with regard to ráb from coupes. It is inevitable that the villagers should transgress in their own favour, and it might perhaps be advisable that the officers of the Forest Department should set apart the loppings that should be removed from coupes. There would, however, be a fear, on the other hand, that the villagers might not in this way get all they were entitled to and the work would take up much valuable time besides giving power for collusion between contractors and the lower paid subordinates who would necessarily have to be entrusted with the work. The point is a difficult one, but might be left to the Collector and the Conservator to settle in concert.

7. *Paragraph 60.*—The warning conveyed to Government seems almost out of place, but the Conservator seems to have forgotten the other side of the picture. Probably no one will deny that it would be a good thing if all forest privileges could not only be whittled down but altogether abolished, but it has to be remembered that they have come to be exercised by the natives of the soil while the world has been going round. Reckless concession and strict repression would both be equally easy, and the difficult task before Government is to decide how much to concede with due regard to the general interests of the country and the particular interests of the people concerned.

8. *Paragraph 61.*—The same arguments apply to the free grazing of "agricultural" and "milch" cattle. There may be inequalities here and there, but some general principle is necessary such as has been laid down by Government.

9. *Paragraph 76.*—The Commissioner cannot help thinking that the preparation of forest maps on the 8″ scale will prove a matter of true economy in the end.

10. A very full account of the working-plan introduced in the Thána District was given in last year's report, but this year paragraphs 83—90 are a reproduction of a report already submitted in answer to the criticism of the Government of India, and this reproduction hardly seems necessary.

11. The statistics given in paragraph 108 do not allow of any very useful conclusions being drawn from them. The percentage of failure in prosecutions is very low in North Thána, considerable in South Thána, and very high in Surat;

but this may be owing to numerous causes. Section 67 may have been more freely resorted to in North Thána, and in Surat, as pointed out, the cases were altogether so few that no fair deduction can be drawn.

12. The Commissioner is not prepared to support the proposal in paragraph 110, that Range Forest Officers should be given powers under Section 71 (*d*). This might be done in selected cases on necessity being shown, but as yet the percentage of failures is not so large as to call for a remedy which would be accompanied with a certain amount of danger. Forest prosecutions are still more successful than those of the police.

13. The statement in paragraph 114 seems to require investigation, which will be made. In North Thána there were 44 cases in which the property was valued at Rs. 73. Although 42 cases remained undisposed of, in the 2 cases which were decided fines amounting to Rs. 119 were imposed. In South Thána, there were 6 cases in which the property was valued at Rs. 36, and though convictions took place in all the cases the fines imposed amounted to only Rs. 8, or not one-fourth of the value of the property.

14. The table in paragraph 115 shows that cases compounded under Section 67 increased in all the districts in the Northern Division except Surat. In North Thána they more than doubled, in South Thána and the Panch Maháls they increased by about 66 per cent. The figures for the Northern Division are, however, insignificant as compared with those for the Central Division.

15. There is also considerable difference in the average amount of composition in the various districts as might have been expected. The table in paragraph 117 shows that for the 99 cases compounded in North Thána Rs. 511 were recovered, or rather more than Rs. 5 per case. In South Thána the average was about Rs. 2½, in Surat it was about Rs. 25, and in the Panch Maháls about Re. 1-13-0, compensation having been actually levied in only 91 of the 111 cases which were decided under Section 67 (*vide* table in paragraph 118).

16. Appeals may be practically said to be non-existent.

17. The table in paragraph 119 is somewhat puzzling. Sub-section (3) of Section 67 distinctly lays down that the sum of money accepted as compensation under sub-section (1), clause (*a*), shall in no case exceed Rs. 50, yet the table shows one case in which the compensation was fixed at Rs. 55 and another at Rs. 470!! This may mean that several cases were lumped into one, and a total amount exceeding Rs. 50 was levied from several offenders; but, if so, it would appear that each ought to have been shown as a separate case.

18. There can be no doubt that composition under Section 67 has reached startling proportions, which show a tendency to increase. In the Northern Division at least, there is, however, as yet no sign of any mischief from the operation of the section, and there seems no reason to apprehend any. It would be impossible that the cases should all go before the District Forest Officer, and still more inadvisable that they should go before the Criminal Courts. The trouble to the people concerned and the increase of work to the deciding officers would be too great, and there is also no reason why Section 67 should remain a dead-letter. The Commissioner is therefore of opinion that present arrangements may be allowed to continue.

19. The complaint made by the Conservator, that Magistrates are unduly lenient in Forest cases, may be justifiable. The fact might be brought to the notice of the District Magistrates with a view to their paying special attention to such cases and seeing that properly deterrent punishment is awarded. Forest officers might also ask for review in cases which they considered flagrant. There can be no doubt that Magistrates, who are also Revenue officers, are inclined to be lenient to the rayats of forest villages.

20. The figures of the cattle impounded in the Northern Division are not startling. In North Thána and Surat the figures have increased considerably since last year, but in South Thána and the Panch Maháls they have remained almost stationary. The totals for the whole Division, however, only amount to 4,560, out of a total of over 300,000 for the Northern Forest Circle. The complaint is

reiterated that the small number of impoundings in North Thána was owing to a want of pounds. Enquiry on this point will be made. It should have been made last year, but was unfortunately overlooked.

21. There seems to have been a considerable increase in mischief by fire in both North and South Thána, and more particularly in Surat. The fires are said to be due to deliberate incendiarism, the fact of the forests being open to all, and the leniency of Magistrates against detected offenders. The Commissioner fears that under the circumstances of the country anything like efficient fire protection cannot be hoped for for many years.

22. The year under report had almost closed when the orders contained in paragraph 15 of Government Resolution No. 1899 of 13th March 1891 were issued. Those orders will not, therefore, be carried out till the year now current, but it may be noticed that the revenue from grazing and fodder grass decreased by almost 50 per cent. in North Thána, while the differences in South Thána and the Panch Mahâls were inappreciable. "Valuable kurans" in North Thána yielded between 8 and 9 annas per acre, in South Thána less than 2 annas per acre, and in the Panch Mahâls less than 1½ annas per acre!! Comment is needless. The Commissioner does not consider it necessary to follow the Conservator in the arguments raised in paragraphs 166—177 which relate more particularly to Deccan districts.

23. The paragraphs on natural reproduction are interesting and show that satisfactory work is being slowly done, supplemented by artificial reproduction in some slight degree. The only point that calls for notice in Chapter IV is the departmental working of coupes of the year that have failed to find purchasers in the open market. The question is a difficult one, and has been separately reported on in this office No. 3512, dated 7th September 1891, so that it is hardly necessary to rediscuss it here. The Commissioner is, however, respectfully of opinion that it is hardly necessary to work such coupes departmentally, merely in the interests of local supply and more especially of ráb. The latter could certainly be supplied from other sources, and the demand for other forest produce must be very uncertain in places where open sales fail.

24. On the whole, the results of the outturn and working have been most satisfactory with the exception noted above. Paragraph 264 of the report shows the reasons why several coupes in the South Thána Division remained unsold.

25. The Commissioner himself had nothing to do with the administration of the year under report as he only took charge a few days before its close. But since he has been in charge he has much pleasure in recording the smoothness of work in all forest matters, owing principally to the exertions of his predecessor aided by Mr. Sinclair as Collector of Thána. The Forest officers seemed to have worked well and to have cheerfully accepted the new conditions, and the Commissioner trusts he may be permitted to remark that Mr. Shuttleworth's activity, industry and devotion to forest interests have been as conspicuous as ever.

J. K. SPENCE,
Commissioner, N. D

No. $\frac{R}{5903}$ of 1891.

From

G. B. REID, Esquire, C. S.,
Acting Commissioner, C. D.;

To

The CHIEF SECRETARY to GOVERNMENT,
Revenue Department.

Poona, 29th December 1891.

Sir,

I have the honour to submit, with my remarks, the forest administration report of the Northern Circle, for the year 1890-91, received from the Conservator, on the 7th instant.

2. *Paragraphs 17 to 19.*—The largest addition to the reserved forest, as far as the Central Division is concerned, was in East Khándesh, where 55 square miles and 117 acres were added, and the smallest in Násik, being 51 acres only; while in Sholápur there was no addition but a diminution of 10 acres on account of disforestment. The total area, added to reserved forest in the Central Division, amounts to 86 square miles and 85 acres, and the total area disforested was 23 square miles and 412 acres, so that there was a net accession to reserved forest of 62 square miles and 313 acres. As regards protected forest, there was no addition but disforestment only, amounting to 46 square miles and 305 acres, the whole of which was in the Khándesh District. The addition of a column in the table embodied in paragraph 17 to show paper corrections is an improvement.

3. *Paragraphs 20 to 54.*—There are only 6 tálukas in the Central Division, 5 in Khándesh and 1 in Násik, in which the demarcation work, though commenced, has not yet been completed. In the rest of the Division, all that remains to be done is the acquisition of occupied land for forest where the same has been included in a demarcation scheme. The progress made in this respect in the districts of Sátára, Ahmednagar and Poona was creditable. Excluding the Forest Settlement Officer for the Dángs, there is only one officer in the Central Division, *viz.*, Mr. C. G. Dodgson, C.S., who is exclusively employed on forest demarcation and settlement work, and the progress achieved by him as detailed in paragraph 36 of the Conservator's report was satisfactory. In the other parts of the Division, where the work is performed by Assistant or Deputy Collectors in addition to their ordinary duties, there is not much to be done except in Sátára; and the progress effected during the year may be regarded as satisfactory. As regards Sátára, I would solicit the attention of Government to my predecessor's No. $\frac{R}{3405}$, dated 18th August 1891, applying for the services of a special officer. In paragraph 39 the Conservator objects to the entries under column 7 of the forest register (Village Form No 1 A) being blank in cases where no rights have been found to exist. Mr. Shuttleworth seems to think that these blanks leave room for the insertion of false entries by a dishonest village accountant, and suggests that the words "No rights admitted" should be written in the place of the blanks. Mr. Shuttleworth has perhaps exaggerated the chance of fraud as reference could be made to the original record of the Forest Settlement Officer, but I agree with him that it is well to make things as safe as possible and it might be as well to have the entry "No rights admitted" made in the original record and the same in the village books to be signed by the Assistant Collector in charge of the táluka. In paragraphs 49 to 54, the Conservator of Forests dwells on the difficulty of carrying out the orders of the Government of India in the matter of debiting reserved forests with the cost of settlement operations. It is true that enquiries by Forest Settlement Officers into claims to trees on occupied or alienated lands, not constituted reserved forest, should be regarded as foreign to the purposes of Chapter II of the Indian Forest Act; and to that extent the pay and allowances of Forest Settlement Officers should not be chargeable to the capital cost of a reserved forest. But, excepting these enquiries, almost all the work which a Forest Settlement Officer is required to do has direct or indirect connection with

the constitution of reserves : and I am not, without going into facts and figures, prepared to endorse Mr Shuttleworth's remark that only the odd moments of a Forest Settlement Officer are devoted to the so-called forest settlement operations.

4. *Paragraphs 57 to 61.*—The privileges to the Khándesh Bhils, though liable, sometimes, to abuse, have been conceded after mature consideration of all the interests involved; and the Forest Department would serve its interests better by allowing their exercise in a loyal and ungrudging spirit. Recent correspondence has shown that without a resident Bhil population forest fires cannot be dealt with properly, and the Forest Department will, it is hoped, find the benefits of a more sympathetic treatment of the forest population. The result will, it is hoped, be a success in forest conservancy, which no number of protective establishments could by itself secure.

5. *Paragraphs 103 to 121.*—The number of prosecutions for forest offences shows a marked decrease in East Khándesh, while the reverse is the case in the Poona District. The increase in the case of Poona appears principally due to a larger number of prosecutions for grazing without permission. The number of cases compounded under Section 67 of the Indian Forest Act has increased in every district of the Central Division except Sátára, the increase being particularly marked in East and West Khándesh and in Poona. The report on the working of Section 67 of the Forest Act, called for by Government, will be shortly submitted. I am not prepared to recommend the grant of powers to Range Forest Officers under Section 71 (*d*) of the Forest Act as suggested by the Conservator of Forests in paragraph 110 of his report. Such powers in the hands of a special department ought not to be granted without very exceptional reasons; and I do not suppose that the slight increase in the proportion of failures to prosecutions, which, on Mr. Shuttleworth's own showing, signifies little, is sufficient reason for applying for such powers.

6. *Paragraphs 135 to 149.*—The results of fire conservancy during the year, although improvement is noticeable in some districts, are not, on the whole, encouraging. The explanation of this, from a forest point of view, seems to be (*vide* paragraph 149 of the report) that (1) the exercise of rights and privileges by the people is incompatible with proper protection of forests, and that (2) Revenue and Magisterial officers do not regard the burning of fires as a serious offence; in other words, proper conservancy is only feasible if forests are absolutely closed against man and beast!!! The heading of column 4 of the table embodied in paragraph 135 of the report should be "Acreage burned" and not "Average burned" The remark in paragraph 144 of the report that "In Poona there is a small deterioration in fire protection" is not warranted by the figures supplied, which seem to point to a marked improvement.

7. *Paragraphs 150 to 177.*—The receipts from grass and grazing show a steady development from year to year. The increase is perceptible in every district of the Central Division except Sátára. The Conservator seems to take a pessimistic view of the new grazing rules; but they have had a very short trial, and it is too soon to sound a note of warning as Mr. Shuttleworth has apparently done in paragraph 172 of the report.

8. *Paragraph 244.*—As far as the Central Division is concerned, there have been no important fluctuations as regards free grants of wood made in the several districts. In Khándesh and Sátára the grants were larger than in the previous year; but the increase is nearly counterbalanced by the fewer grants made in the remaining districts, the value of wood granted in the entire Division showing an excess of Rs. 85 only as compared with the previous year.

9. The financial results of the year's administration were eminently satisfactory; and I am glad to observe that the relations between Revenue and Forest officers have been all that could be desired.

I have the honour to be,
Sir,
Your most obedient Servant,
G. B. REID,
Acting Commissioner, C. D.

B 715—27 N G

SOUTHERN CIRCLE

No. 3174 of 1891-92.

FROM

J. L. L. MACGREGOR, ESQUIRE,
Conservator of Forests, Southern Circle;

TO

T. D. MACKENZIE, ESQUIRE,
Chief Secretary to Government,
Revenue Department, Bombay.

Belgaum, 16th October 1891.

SIR,

I have the honour to submit herewith the Forest-Administration-Report of the Southern Circle for the year 1890-91, together with its subsidiary statements.

I have the honour to be,
Sir,
Your most obedient Servant,

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

THROUGH THE COMMISSIONER, SOUTHERN DIVISION.

745—3 c—8.

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SOUTHERN CIRCLE.

1890-91.

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CHAPTER I.

AREA AND BOUNDARIES.

The areas of the Divisions of the Southern Circle during 1890-91 were as follows :—

Collectorates.	Area on 1st April 1890.		Added during the year.		Excluded or transferred to other Heads.		Area on 31st March 1891.		Total Forest Area.
	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	
	Sq. m. Acs.	Sq. m. Acs.	Sq. m. Acs.	Sq. m. Acs.	Sq. m. Acs.	Sq. m. Acs.	Sq. m. Acs.	Sq. m. Acs.	Sq. m. Acs.
Kánara	683 440	2,864 532⅜	56 553	....	¼0 12	57* 436	740 347	2,807 96⅜	3,547 443¾
Belgaum	494 419⅞	196 571¾	....	....	0 3	....	494 416⅞	196 571¾	691 348⅝
Dhárwár	171 410⅝	260 259	....	....	....	0 1	171 410⅝	260 258	432 28⅜
Bijápur	155 75⅜	0 364	....	....	....	....	155 75⅜	0 364	155 439¾
Kolába	293 630½	88 606¼	12 318¾	0 33	3 257⅜	5 25⅞	305 597⅞	57 569⅞*	363 526¾
			+2 545¾			+26 44⅛			
Ratnágiri	20 112½	....	0 72	....	0 105	....	20 79¼	....	20 79¼
Total ..	1,819 175⅞	3,411 413¼	69 303¾	.. 33	3 377⅜	62 463⅝	1,888 61⅛	3,322 579¾	5,210 586¼
			+2 545¾			+26 44⅛			

* Of these, 56 square miles 553 acres were transferred to the reserved forests and 523 acres disforested.

KÁNARA.

2. The changes in the area for Kánara are owing to the settlement of 46 villages of Sirsi, 16 of Kumta and 21 of Honávar, on which Government-orders were passed during 1889-90, but the area was gazetted in 1890-91; it amounted to—

Reserved.		Protected.	
Acres.	Gunthás.	Acres.	Gunthás.
344	27	16,523	31 of Honávar.
585	32	9,190	14 of Kumta.
35,462	14	26,313	25 of Sirsi.

3. During the year under report the Forest-Settlement-Officer submitted proposals regarding 17 villages of Sirsi and 46 of Kumta, aggregating 55,600 acres, and completed field-work for a tract of 61 square miles of Yelláp̀ur, 227 of Kumta and 61 of Ankóla. Settlement-proposals on the latter are reported to be in course of preparation.

4. The following areas were notified under Section 4 of the Forest-Act :—

Acres.	Gunthas.
68,145	34 in Honávar.
7,647	31 in Sirsi.
598	39 in Kumta.

5. Twelve miles of 30-feet lines, dividing Protected from Reserved forests, were cleared in the Mundgod-subdivision, and 15½ miles were cleared in Ankola. The average cost per mile amounted to 30 rupees. Field-books and maps, showing boundary-marks and demarcation-lines in 36 villages of Ankola and Haliyál, were prepared for use of the forest- and village-officers.

BELGAUM AND DHÁRWÁR.

6. The work done by the Forest-Settlement-Officer comprised the complete inspection of the Chikodi (11,463 acres), Gókák (32,230 acres) and Khánápur (46,670 acres) sub-divisions. He submitted settlement-reports on the Belgaum and Chikodi forests, aggregating 38,520 acres. Since the close of the year, the field-work of the Belgaum-district is reported to have been completed, and that of Dhárwár commenced.

KOLÁBA.

7. Final orders were passed by Government on the settlement of the Nágothna, Pen and Roha sub-divisions, and of lands in Ránsái in the Panvel sub-division. The area retained in forest is:—

Reserved.	Protected
Acres.	Acres
28,218 $\frac{3}{40}$	102 $\frac{1}{4}$ in Nágothna
32 283 $\frac{1}{40}$	904 $\frac{9}{20}$ in Pen
31,739 $\frac{19}{20}$	6,259 $\frac{4}{5}$ in Roha.
1,840 $\frac{13}{5}$	33 in Ránsái of Panvel

8. The expenditure on account of settlement and demarcation during 1890-91 amounted to Rs. 24,951, as shown below :—

	Rs	Rs
Not charged against Forests.		
Allowances of the Forest-Settlement-Officer, Kánara .	1,800	
Salaries and allowances of the Forest-Settlement-Officer, Belgaum-Dhárwár	12,888	
		14,688
Charged to Forests.		
Salaries and allowances of the establishment employed under the Forest-Settlement-Officer, Kánara, and contingencies	4,128	
Salaries and allowances of the establishment employed under the Forest-Settlement-Officer, Belgaum-Dhárwár, and contingencies	1,992	
Cost of demarcation	4,143	
		10,263
Total .		24,951

9. The sums expended during the year under the following heads were as follows :—

	Rs.
A. Pay and allowances of the Forest-Settlement and Demarcation-Officers and of their establishments	20,039
B. Compensation	...
C. Miscellaneous expenditure	769
	20,808

10. The settlement of the year, which is represented by the above expenditure, comprises :—

	Cost Rs.
296·68 square miles—finally settled and sanctioned ...	6,731
621·79 square miles—Settlement in progress ...	14,097
(Areas for which the field-work has been completed)	20,808

11. The cost per square mile of the settlement finally effected during the year was Rs. 22·65.

12. The total cost of forest-settlement-operations up to 31st March, 1890, amounts to Rs. 2,55,214·5, and that on account of the area gazetted during 1890-91, to Rs. 6,721·3. The total area finally settled and gazetted up to the end of 1890-91, is 2,398·69 square miles, and the cost per square mile up to date comes to 109·2 rupees.

13. The following table shows the progress made in the settlement of the forests which were gazetted under Section 34 of the Forest-Act :—

Name of Collectorate.	Class of Forests	At the commencement of the year. Areas under Section 34 in which private rights have not been enquired into, settled or recorded.		Areas dealt with during the year and sanctioned by Government. Under Section 19, Chapter II of the Forest Act		Under Section 28, Chapter IV of the Forest Act.		Area of Reserved Forests Alienated under Section 26		Area of Protected Forests disforested under Government orders		At the end of the year. Areas under Section 34 in which private rights have not been enquired into, settled or recorded.	
		Sq. m.	Acres.	Sq. m.	Acres.	Sq. m.	Acres	Sq. m.	Acres	Sq. m	Acres	Sq. m.	Acres
Kánara	Reserved	214	286									214	286
	Protected	2,370	122							0	495	2,369	267
Bijápur	Reserved	155	76									155	76
	Protected	89	409			..						89	409
Kolába	Reserved	140	359	125	288			3	288			11	359
	Protected	37	81	20	471	11	225			5	75		
Total	Reserved	509	621	125	288			3	288			381	75
	Protected	2,496	612	20	471	11	225			5	570	2,459	36

14. The area remaining to be dealt with is :—

	Square miles.	Acres
In Kánara, as detailed above ...	2,583	553
In Kolába (area of 4 villages of Nágothna notified under Section 4) ...	11	353
In Dhárwár (area already notified under Section 4) ...	266	286
In Belgaum (do. do) ...	258	130
	3,120	42

15. The settlement of the Bijápur-forests has been completed as already reported, and maps to illustrate the settlement-proposals are being prepared. Only the areas proposed for "fuel and fodder reserves," aggregating 22 square miles 488 acres, have still to be dealt with.

CHAPTER II.

SURVEYS AND WORKING-PLANS.

I.—SURVEYS.

16. The Forest-Survey-Party continued the topographical survey, and 343 square miles are reported to have been surveyed at a cost of Rs. 38,971 during the year ending 30th September, 1890, the cost per square mile for 8" and 4" scales being Rs. 83-8-4 and Rs. 71-7-3, respectively.

17. The area completed was 76·75 square miles less than in the previous year.

18. The cost per square mile of the 8-inch maps is said to have exceeded that of the 4-inch by about Rs. 12; but this estimate is necessarily only very approximate, and in all probability 8-inch maps can be as cheaply made of the Kánara-forests as 4-inch maps, on which, practically, all the details shown on the larger scale can be given. The extra cost of the latter would, therefore, amount to the value of the additional paper used, and of the additional labour, if any, required to draw the maps.

19. Nearly the whole of the valuable timber-producing areas of the Southern Circle have now been surveyed by the Topographical Survey of India, and, by the end of next season the services of the party might be dispensed with. The maps of the Revenue-Survey of Bombay would meet all requirements of the Forest-Department in the areas not yet surveyed by the special survey-party.*

II.—WORKING-PLANS.

20. The two parties were in charge of Mr. Bell, Mr. Oliver having been deputed to Kolába for the purpose of allotting lands for kumri to *Thákurs* and *Kátkaris*.

21. The work accomplished is shown in the following table:—

Lines 10—20 feet Broad.			Linear miles surveyed.	Posts fixed.	Test Trees felled.	Number of Compartments formed.	Test Area estimated.	Area for which Working-plan has been formed.	Total Cost incurred.	Cost per Acre.
Cleared of regrowth, &c.	Jungle cut and cleared, miles.	Total miles cleared.								
							Acres.	Acres.		As.
39·34	111·06	150·4	162·82	2,671	338	83	3,458	44,361	34,097	12·29

22. These and the other *data* necessary for the preparation of working-plans have been prepared for 44,361 acres, or 69 square miles of teak-forests in the Northern Division of Kánara. The area has been divided into series to be treated by the method of *jardinage*. It is stocked with mixed forest, consisting mainly of *matti*, teak, and other less valuable timber-species, and forms part of the tract described in my No. 3958 of 23rd December, 1889. The working-plans will, it is expected, be ready in a few days.

23. Government have ordered the preparation of estimates for a bullock-tramway, between the Haliyál-sale-depôt and Shiroli, which would bisect the area for which these two working-plans have been prepared.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

ESTABLISHMENT.

24. A newly-appointed Assistant-Conservator from England was posted to the Working-Plans' Branch.

25. Mr. Oliver, Assistant-Conservator for working-plans, was temporarily transferred to Kolába, in November, for the purpose of allotting kumri to the "wild-tribes" there.

26. Mr. A. Stewart, Deputy-Conservator, was transferred from the Northern to the Southern Circle, and posted to the charge of the Southern Division of Kánara on February 10th, in place of Mr. Woodrow, who was on privilege-leave from that date until the close of the financial year.

27. Mr. Murray held charge of the Northern Division of Kánara, in addition to his own (Belgaum), during the absence of Mr. Talbot on six months' furlough and three months' privilege-leave. Mr. Woodrow held charge of the Central Division, in addition to his own (the Southern), during Mr. Haselden's

* Since the above was written Government have decided to complete the survey of the whole area on the 4-inch scale (Government Resolution No. 6550, dated 23rd September 1891).

absence on one month's leave. Mr. Hight held charge of Bijápur in addition to his own division (Dhárwár) during Mr. Ryan's absence on one month's privilege-leave.

28. During Mr. Bell's absence on one month's leave, Mr. H. Mitra held charge of the working-plans' party No. I, and during Mr. Oliver's absence on one month's leave, Mr. Satárawala held charge of No. II party.

29. The proposals for a reorganization of the executive staff, referred to in paragraph 28 of last year's report, are still under the consideration of Government. The want of a more numerous and efficient executive staff increases each year as the working of the forests becomes more intensive.

BREACHES OF THE LAW.

30. The number of prosecutions disposed of by Magistrates is as follows:—

No.	Divisions.	1889-90			1890-91			Percentage of failures	
		Cases in which conviction was obtained.	Cases in which conviction failed.	Total.	Cases in which conviction was obtained	Cases in which conviction failed	Total.	1889-90	1890-91.
1	Northern Division, Kánara	10	4	14	11	3	17	28	18
2	Central Division, Kánara ..	9	3	12	8	1	9	25	11
3	Southern Division, Kánara	9	13	22	7	10	17	59	59
4	Belgaum .	35	7	42	31	21	52	16	40
5	Dhárwár	5	4	9	12	3	15	44	20
6	Bijápur .	8	2	10	7	3	10	20	30
7	Kolába . ..	20	4	24	44	6	50	16	12
8	Ratnágiri .	5	.	5	23	4	27	...	15
	Total .	101	37	138	146	51	197	26	26

31. The increase in the number of cases disposed of occurs chiefly in Kolába, Ratnágiri and Belgaum.

32. In Belgaum the increase is ascribed to increased vigilance on the part of forest subordinates. A large increase in the percentage of failures is also noticeable in Belgaum and this the Divisional Officer attributes to the fact that Magistrates sometimes overlook Section 68 of the Forest-Act, in which it is laid down that the burden of proving a right to forest-produce rests with the accused. He reports also that several cases of theft and mischief in Khánápur were dismissed by the Magistrate on the ground of their being in his opinion trivial.

33. In Bijápur the number of cases which failed was 10 per cent. more than in 1889-90. The total number of cases is, however, only 30.

34 In the Southern Division of Kánara, the number of cases tried during 1890-91 was somewhat less, the percentage of failures being equal to that of 1889-90.

35. The Divisional Officer reports that, of the 9 cases in which acquittal was obtained in Sirsi, 5 were dismissed on the ground that the offences complained of were committed in forests, gazetted under Section 34, in which rights had not been enquired into. This argument had previously formed the subject of a special reference to Government (Resolution No 6728, dated 24th September, 1890) and the opinion of the Remembrancer of Legal Affairs appears to have been that prosecutions under those conditions are legal. Mr. Woodrow complains that the officers of the department are placed in a most embarrassing position by these magisterial decisions. On the one hand, they are bound to prosecute cases which they have the very best authority for considering valid, while, on the other hand, they know that the Magistrates will probably not convict on the ground above-stated, and will dismiss all such cases brought before them. "The action of the department," Mr. Woodrow adds, "is thus completely paralysed in this class of forests, which, in this division, comprises $\frac{5}{6}$ths of the whole forest-area."

36. Two other cases were discharged on the ground that a certain notification, issued by Government under Section 29 (*a*) of the Forest-Act, was not published, as required by Section 30, in the village in which the offences were committed. This omission unfortunately sufficed to effect the acquittal of the accused, although, in one of the cases, the estimated damage was Rs. 2,656. One case of illegal cutting of *ráb* (estimated value Rs. 4-11-0) was discharged on the ground of its being trivial in the opinion of the Magistrate.

37. In regard to cases dismissed on the last-mentioned ground, the Divisional Officer remarks that "many of the *soppu*-cases may appear trivial, but, when nearly all the rayats overstep their *bettá*-limits, the damage to the forests is considerable. A few really-deterrent sentences would stop this illicit lopping, but leniency is more often adopted in disposing of forest-cases. In one, in which a conviction was obtained, the three accused were only fined Rs. 20 each, though the damages were laid at Rs. 500."

38. The cases dealt with under Section 67 of the Forest-Act were as shown in the following statement:—

No.	Divisions.	1889-90				1890-91.			
		Total number of cases disposed of.	Number of cases compounded.	Number discharged.	Amount of compensation recovered in cases compounded.	Total number of cases disposed of.	Number of cases compounded.	Number discharged.	Amount of compensation recovered in cases compounded
					Rs.				Rs.
1	Northern Division, Kánara ...	19	19	..	102	22	21	1	196
2	Central Division, Kánara ..	15	14	1	135	56	53	3	157
3	Southern Division, Kánara ..	140	140		574	98	98		299
4	Belgaum	99	99	...	385	361	361		248
5	Dhárwár	27	27		26	52	52		138
6	Bijapur	93	93	..	308	76	76		261
7	Kolába . .	189	189		885	266	266		1,033
8	Ratnágiri ...	93	93		288	121	121		420
	Total ...	675	674	1	2,793	1,052	1,048	4	2,752

39. Increase in the number of cases disposed of is met with in the Central Division of Kánara, in Belgaum, and Kolába-Ratnágiri.

40. The large increase in Belgaum was due to the fact that in former years when a number of individuals were charged at one and the same time with similar offences, they were all grouped under one case, whereas now each individual offence is shown separately. In the Central Division of Kánara, the increase was due to a greater number of cases of illegal cutting of *ráb* by garden-cultivators, and in Kolába-Ratnágiri to unauthorized fellings of wood.

41. No appeal was made to me against any of the decisions passed under Section 67 of the Forest-Act.

42. Appendix A shows the number of cases in which fines amounting to one rupee, two rupees, and so on up to the maximum, were inflicted during 1890-91.

43. A statement showing the number of cases compounded or taken into court is given below.—

No.	Divisions.	Taken into Court.		Compromised under Section 67		Total number of cases.	
		1889-90.	1890-91.	1889-90.	1890 91	1889 90.	1890 91
1	Northern Division, Kánara	11	17	19	22	30	39
2	Central Division, Kánara	8	8	14	56	22	64
3	Southern Division, Kánara	22	18	140	98	162	116
4	Belgaum	50	49	99	361	149	410
5	Dharwár	9	15	27	52	36	67
6	Bijapur	7	11	93	76	100	87
7	Kolába	24	49	189	2 6	213	315
8	Ratnagiri	5	27	93	121	98	148
	Total ...	136	194	674	1,052	810	1,246

44. The cases taken into court during 1890-91 amounted to 194, and 11 were pending at the close of 1889-90. Of these, 2 were withdrawn, 197 disposed of by Magistrates and 6 remained undecided at the close of the year.

45. The number of animals impounded during 1890-91 in open and closed forests is given in the following table :—

No	Divisions	Number of Animals impounded.		Total	Remarks.
		In open Forests	In closed Forests		
1	Northern Division, Kánara ...	...	174	174	The number impounded during 1889-90 is not known.
2	Central Division, Kánara ..	264	573	837	
3	Southern Division, Kánara ..	4	105	109	
4	Belgaum	1,617	3,767	5,384	
5	Dhárwár	285	2,297	2,582	
6	Bijápur ...	724	256	980	
7	Kolába.	102	..	102	
8	Ratnágiri	.	138	138	
	Total .	2,996	7,310	10,306	

FOREST-FIRES.

46. During the year, greater success was attained in the special protection of the forests from fire. This may have been partly owing to the unusual moisture of the season in the western districts, rain having fallen late in November and also early in the hot weather. Protective measures were also more effective than during the previous year, being again remarkably good in the Northern Division of Kanara and Bijápur. No special measures were taken in Kolaba although there was a budget-allotment of Rs. 760 available for the purpose.

47. The area which is reported to have escaped fire without the taking of any special measures, amounts to 4,094 square miles, or 79 per cent. of the whole forest-area.

48. The following statement shows the results of special protection reported for the past two years :—

Division.	Area in Square Miles			Proportion of failures to area attempted.	Cost.		Proportion of area under fire protection to total area of reserves.
	Attempted	Failures.	Protected		Per Square mile protected.	Per acre protected	
				Percentage.	Rs.	Pies.	
Northern Division, Kanara	527·77	01	527 76	·0	18·58	5·5	...
Central Division, Kánara	120 99	1 23	119·76	1·0	16·52	4·9	..
Southern Division, Kánara ..	131·70	6·60	125·1	5·0	4·24	1·2	
Belgaum ..	153·68	·26	153 42	0 1	9·80	2 9	
Dhárwár	56·76	1·20	55·56	2 1	9 02	2·7	..
Bijápur	64·0		64 0		6 25	1 8	
Kolába		..			.	...	...
Ratnágiri	4 67	·00	4 67		2 71	0·8	...
Total in 1890-91 ...	1,059	9	1,050	0 8	14 07	4 2	56
Total in 1889-90 ...	1,016	125	892	12 3	12 73	3 8	56
Increase or Decrease in 1890-91	+43	—116	+158	—11·5	+1 34	+·4	...

49. The increased cost per square mile is due to the fact that the average area of the enclosures was less.

50. The following areas are estimated to have escaped fire without the adoption of special measure :—

	Acres.
Northern Division, Kánara	391,656
Central do. do.	530,839
Southern do. do.	744,838
Belgaum	324,583
Dhárwár	272,098
Bijápur	114,850
Kolába	231,294
Ratnágiri	9,890
Total ...	2,620,048

51. During the previous season, the area reported as having escaped fire without the adoption of special measures amounted to 3,299, or 65 per cent. of the whole area. During the past year it amounted to 4,094 square miles, or 79 per cent. of the whole area.

52. In the western districts the superior results of last year might perhaps be ascribed entirely to the greater moisture of the season; but in the eastern districts, in which fires commenced about Christmas time, the more favourable results must be put down to some other cause. I do not know what that cause may be, but it is quite possible that the great efforts that have been made during the last three years to protect limited areas from fire, may, both directly and indirectly, afford a certain degree of protection to the unprotected areas. Undetected acts of incendiarism are, for instance, now less easily accomplished in areas adjoining the specially-protected, and the watchers, employed in the specially-protected forests, are all local men who benefit themselves and other villagers by being employed in fire-protection at a time of the year at which they have no other means of employment; local interests are not, therefore, entirely opposed, as formerly, to protection.

53. The general arrangements in the specially-protected areas have improved, more particularly in the Central Division of Kánara. The Northern Division started best in this respect, and has maintained its position above the two other divisions, South Kánara being a long way behind.

GRAZING AND FENCING.

54. There is an increase of Rs. 1,445 in the year's revenue from grazing; the total revenue in 1890-91 amounted to Rs. 72,809, and Rs. 71,364 in 1889-90.

55. The areas closed to grazing during 1889-90 and 1890-91 were as shown below :—

Divisions.	Area closed.			
	1889-90.		1890-91.	
	Sq. miles.	Acres.	Sq. miles.	Acres.
Northern Division of Kánara ...	181	279	190	214
Central Division of do. ...	.....		81	455
Southern Division of do. ...	.....		123	629
Belgaum Division	19	7	24	536
Dhárwár do.	93	142	90	307
Bijápur do.	10	174	43	291
Kolába do.	6	567	6	567
Ratnágiri do.	.....		20	79
Total ..	310	529	581	518

56. The area now under closure is about half that which it appears desirable to close ultimately for purposes of regeneration.

NATURAL REPRODUCTION.

I.—By Seed.

Northern Division, Kánara.

57. The Divisional Officer reports that many young teak-trees are coming up in the specially-protected areas, and that the comparative immunity from fire of the forests in those areas is having a marked effect on natural reproduction.

Central Division, Kánara.

58. The Divisional Officer reports favourably of natural reproduction by seed in the forests of the Yelláp ur-range, and, in particular, in the teak-forests of Lálguli, Tattihallá, Kolikeri, Kirwatti, Hosali, and those in the vicinity of Sidalgundi. He reports unfavourably of reproduction in the forests of the Mundgod-range, even in areas which have been protected from fire. He attributes the fact to a scanty rainfall, comparatively speaking. The general state of the forests of Mundgod is, however, not nearly as favourable to natural reproduction as that of the forests of Yelláp ur. The population is denser, cattle more numerous, the forests more open, and fires have done more damage to the soil in Mundgod than in Yelláp ur.

59. Belowghát s, self-sown seedlings are less numerous and appear to be confined to one or two forests, notably those of Rámanguli and Kodalguddé, in which young teak-seedlings are reported to be numerous.

Southern Division, Kánara.

60. The information received from this division is extremely meagre. The Divisional Officer merely reports that "fires were not as prevalent as usual, and, consequently, there were some signs of natural reproduction. Much, however, cannot be expected from one year's relief from fire."

61. Natural reproduction by seed is, no doubt, on the whole, bad.

Belgaum.

62. More definite information is also required in regard to reproduction in this division. Mr. Murray reports that reproduction is generally good, and that favourable rains and good protection from fire have produced good results.

Dhárwár.

63. Mr. Hight remarks that, wherever cuttings have been made, a number of young seedlings have come up amongst the shoots from the stools.

Bijápur.

64. Natural reproduction by seed, for reasons explained in last year's report, is very poor, but the very successful protection afforded during the year from fire cannot fail to have a beneficial, if not immediately-perceptible, effect in this respect.

Kolába-Ratnágiri.

65. Mr. Greatheed, who only took over charge of the division last July, reports that his predecessor left no notes, and that he is not in a position to report from personal observation on the natural reproduction of the forests. From what I observed during my tour, I should say it was bad. The jungles are very open, largely composed of teak-coppice, the ground is rocky, and, excepting an abundant rainfall, the conditions are not favourable.

II.—By Coppice.

66. The reports are generally favourable in regard to reproduction from stools.

ARTIFICIAL REGENERATION.

Northern Division, Ka'nara.

67. The plantations, generally, are reported to be doing well. Blanks in the Kárwár-casuarina-plantation were stopped with 1,800 seedlings. Of these, 300 were drowned during the rains. In the Arge-casuarina-plantation, 7,000 plants were put down, of which 600 died. A nursery of 12,000 casuarinas was formed.

68. 3,723 plants of teak, *matti*, and blackwood were put down in breaks caused by fellings in *Jardinage* in the Haliyál-táluka. Of these, 1,000 have died, probably, owing to want of proper care in lifting and transplanting.

69. The amount expended was Rs. 656.

Central Division, Ka'nara.

70. On the *Arbailghát* a cartload of teak-, black- and jungle-wood-seeds were sown, in dying *Strobilanthes*, under the personal supervision of the Divisional Officer. None of the teak- or blackwood-seeds germinated. Only a few junglewood-seedlings succeeded, and the result of three years' sowings under dying *kárwi* appears to have been a complete failure: altogether 9 teak, 6 blackwood, 49 *matti*, 101 Pterocarpus, total 165, are now alive.

71. A few thousand plants were also planted out in the Yellápur-range with a view to filling up blanks, but with very indifferent success. The results of three years' work of this kind are:—

Teak.	Blackwood.	Junglewood.	Pithecolobium saman.	Total.
283	6	343	40	672

72. The result appears to be somewhat discouraging, but there can be little doubt that the failure of seedlings, planted out in the Yellápur-range, is mainly ascribable to ignorance and unskilful management. Mr. Haselden is now experimenting with seedlings grown from seed sown in bamboo-tubes; pots and seedlings will be planted out together, and it is hoped that, in this manner, damage to the roots will be avoided at very slight expense.

73. The view, that the failure of transplants in Yellápur is due to unskilful management, is strengthened by the results obtained in the Mundgod-range which is not nearly as favourably situated for planting-operations as Yellápur, but which has the advantage of a more energetic Range-officer. Of 3,463 seedlings planted out in Mundgod, 2,727 survived the hot weather: of these, 1,908 are teak, and 50 are Pithecolobiums.

74. Six sacks of teak-seeds were sown broad-cast in the clean-cut coupes of Mundgod, and the Divisional Officer reports that broad-cast sowings, added to naturally-sown seed, are filling those areas nicely with teak (see also paragraph 64 of last year's report).

75. In Kumta, 4,000 teak, and 350 other kinds, in the nurseries failed from want of water. This result is attributed entirely to carelessness on the part of the forest-subordinates.

76. In Ankola, 10 bagfuls of seed were sown in the Sakalben-jungles, and 125 teak- and 800 junglewood-seedlings are estimated to have survived the hot season.

77. In Rámanguli, the sowings were not successful, only about 50 seedlings having survived.

78. The six acres added to the plantation of Devarbail during the previous season are now stocked with 526 seedlings, the result of sowings, which cannot have been very successful, but the teak sown is expected to germinate more plentifully during the second season.

79. The results of sowings on 8 acres of Báleguli in the previous season have not so far been satisfactory, but it is hoped that a more favourable report will be received next season.

80. The amount expended in this division was Rs. 362.

Southern Division, Ka'nara.

81. No progress has been made in this division since last season.

82. The disease, that has attacked the casuarina-plantation at Kásarkod, continues to spread, and its cause has not been discovered.

83. In Honáwar, 8 acres were planted up with teak and other species, but only 630 plants survived.

84. The amount spent was Rs. 284.

Belgaum.

85. No progress has been made in this division. The 40 acres, in Konur, fenced and sown during the previous year, was increased to 200 acres, but the whole sowing appears to have failed, except as regards *Nim*.

86. 941 acres of forest-land were sown with seeds by means of hoe-picks, but the seedlings that came up did not survive the hot weather.

87. The amount spent was Rs. 44.

88. *Dhárwár.*—The results here have also been unsatisfactory. About half the number of trees in the Kalkundi-plantation died from drought. 25 acres were added to the plantation. The cost has been about 2½ rupees per acre.

89. Twenty-five acres were planted up, at a cost of Rs. 22 an acre, in the Dhárwár-range—an excessively high rate.

90. Sowings with the hoe-pick were carried out in the closed areas, with the following results :—

Dhárwár-range.—1,500 acres sown : complete failure.

Kalghatgi.—About 1,400 acres : comparatively few seedlings have survived.

Bankápur.—600 acres : result the same.

Hángal.—730 acres : result the same.

Kod.—238 acres : utter failure.

Ránebennur.—144 acres : slightly better results.

Gadag.—Area not stated ; some seedlings, notably *nim*, have survived.

91. Mr. Hight attributes the want of success in a great measure to an unfavourable rainfall. His district is a very dry one in the best seasons and denuded, so that reboisement, at a reasonable cost, is a very difficult business. Possibly on the denuded hills of the eastern districts it would be advisable, at first, to attempt to grow nothing but thorns.

92. Amount spent was Rs. 1,548.

Bija'pur.

93. The Divisional Officer reports that the season was very dry and, consequently, unfavourable for cultural work. Practically, nothing was accomplished in the regular plantations, and even the seedlings in the nurseries at Hosur and Manglur are reported to have died from drought.

94. Seed was sown broadcast on about 150 acres in Bádámi without any apparent result.

95. The amount spent was Rs. 196.

Kola'ba-Ratna'giri.

96. No progress was made in this division : 300 casuarina-seedlings were planted out in the Ektád and Sáttád plantations, of which 15 failed.

97. About 1½ maunds of káju-seeds were sown : the result is 500-600 plants.

98. The casuarina-plantation at Warsoli, containing 1,845 trees, was sold for Rs. 805.

99. The amount spent was Rs. 233.

COMMUNICATIONS AND BUILDINGS.

100. The amount spent on works under this head was Rs. 6,130: on "Roads and bridges" Rs. 2,367; "Buildings" Rs. 3,268; and "Other works" Rs. 495.

101. *Northern Division of Kánara.*—A road was made from Ambshet to Devrái (Rs. 267) for the transport of fuel to the Southern Marátha Railway, and several cart-tracks in the division were repaired (Rs 425); a new watch-house was built in Gund (Rs. 300), and old forest-buildings repaired (Rs. 492). Rs. 200 were also expended in constructing a well at the Haliyál timber-depôt.

102. *Central Division of Kánara.*—Forest-roads and cart-tracks were repaired (Rs. 660) and a new forest-watch-house was constructed (Rs. 300) as well as old buildings (2 bungalows, a rest-house and 16 watch-houses) repaired Rs. 677.

103. *Southern Division of Kánara.*—A new watch-house was built (Rs. 300), and several old ones repaired (Rs. 632).

104. *Belgaum.*—The repair of the Halshi-Nágargáli road was commenced (Rs. 769); the railway-rest-house at Nágargáli was purchased for Rs. 500, and converted into a guard-house. Existing buildings were put in repair (Rs. 135).

105. *Dhárwár.*—The Dévikop-rest-house and other forest-buildings were repaired (Rs. 119).

106. It might seem strange to persons unacquainted with the country that the expenditure on account of communications should be so small in this Circle, and the Inspector-General of Forests to the Government of India has quite lately made a remark to this effect.

107. As regards roads and cart-tracks, the districts above-ghâts are extremely well off, and those below the ghâts are well-provided with numerous rivers suitable for the transport of produce.

108. Our principal timber-district (Kánara) is provided with a system of roads—and good roads, too—second to none in any of the wooded or unwooded tracts of the Circle.

109. A good deal might no doubt be done towards facilitating and cheapening transport, in places where it is difficult to procure, by employing tramways, and Government have ordered the survey of a line for one between Haliyál and Shiroli in Kánara; should it be constructed and prove a success, others will no doubt follow, as they could probably be usefully employed for transporting fuel to the railway from coupes in Belgaum and Northern Kánara.

110. The only difficulty with which we have to contend in exploiting the timber-forests is the want of means of transport. Communications by road are excellent as the most cursory examination of the maps of Kánara, Belgaum and Dhárwár—the principal timber-producing districts—shows.

CHAPTER IV.

YIELD AND WORKING.

111. The following is a summary of the yield of the forests of the several divisions for 1889-90 and 1890-91:—

112. *Northern, Central and Southern Divisions of Kánara.*—The large teak exploited rose from 247,875 cubic feet in 1889-90 to 345,894 cubic feet in 1890-91; the small teak exploited, such as poles, rafters, &c., fell from 72,640 to 54,578 cubic feet, and the outturn of sleeper-pieces from 16,230 cubic feet to 2,765 cubic feet.

113. The large junglewood removed in 1890-91 amounted to 324,279 cubic feet against 322,080 cubic feet in 1889-90, and the poles, small pieces, &c., to 4,523 against 10,146. The yield of large blackwood measured 19,538 cubic feet in 1890-91 against 8,426 cubic feet in 1889-90; and of blackwood poles, small pieces, &c., 914 against 531.

114. The decrease in the yield of small teak and junglewood is more than made up for by the increase in large wood. During the year 209,853 cubic feet of large teak and 35,451 cubic feet of junglewood were brought into the Haliyál-depôt, against 95,827 cubic feet and 13,125 cubic feet, respectively, of the previous year. The quantity brought in during 1889-90 was less for the reason given in paragraph 88 of that year's report, while a comparatively large quantity was exploited last year.

115. There was a decrease in the quantity of teak and junglewood extracted in the Yellápur-range amounting to 21,505 cubic feet and 14,954 cubic feet, respectively; but the quantity of large wood brought into the Singanhálli-depôt was greater by 6,796 cubic feet than that brought in 1889-90.

116. The number of bamboos extracted fell, from 4,830,535 in 1889-90, to 3,828,055 in 1890-91.

117. The firewood exploited rose from 1,140,224 cubic feet to 1,635,124.

118. The outturn of sandalwood rose from 57 khandis to 84.

119. The yield of myrobollams was less by 646 khandis.

120. The quantity of charcoal removed during the year measured 6,060 cubic feet against 5,448 of the previous year.

121. Decrease in the number of bamboos is met with in all three divisions of Kánara, but is greatest in the Northern Division, where it amounted to 914,548, and this is ascribed by the Divisional Officer to the establishment of tolls near Haliyál and to increased railway-rates for bamboos.

122. The quantity of firewood shows a large increase: 267,790 cubic feet of fuel were supplied to the Southern Marátha Railway-Company; and there was an increase of 223,385 cubic feet in the quantity removed for export from Kárwár, Ankola and Kumta.

123. *Belgaum.*—The large teak exploited during 1890-91 amounted to 9,771 cubic feet against 4,047 in 1889-90. The outturn of black- and junglewood measured 1,063 cubic feet and 14,310 cubic feet, respectively, against 5,447 and 14,720 during 1889-90.

124. Of small timber (teak poles, &c.,) there were 29,293 cubic feet against 23,939; and of black- and jungle-wood, 507 cubic feet and 22,454 cubic feet, respectively, against 240 and 14,467.

125. The quantity of firewood exploited has also increased. The running-fuel, brought in for the Railway-Company, amounted to 1,990,274 cubic feet in 1890-91, against 1,876,051 in 1889-90; lighting-fuel to 8,160 cubic feet against 2,184; and firewood, removed for other purposes, to 731,567 cubic feet, against 696,350.

126. The yield of myrobollams shows an increase of 880 khandis. But the number of bamboos extracted fell from 1,191,073 to 405,569. The decrease is reported to be due to the unfavourable agricultural conditions, and to increased railway-charges. A quantity of charcoal, measuring 11,837 cubic feet, was removed, against none in the previous year.

127. *Dhárwár.*—The outturn both of teak-timber and fuel was larger than in the previous year: it amounted to 63,816 cubic feet of teak-rafters against 23,000 cubic feet, and 266,374 cubic feet of fuel against 66,384. The quantity of junglewood-rafters, *jar yet*-pieces, *janthies*, &c., was 11,635 cubic feet against 12,267.

128. The number of bamboos extracted decreased from 416,283 in 1889-90 to 284,934 in 1890-91; and the outturn of sandalwood-billets from 26 khandis to 9.

129. *Bijápur.*—The yield of timber amounted to 5,710 cubic feet against 11,459 cubic feet in 1890-91: of cart-loads of firewood, to 80,550 cubic feet against 50,148 cubic feet; of animal-loads to 88,672 against 71,976; and of head-loads, to 121,797 against 128,679.

Kolába-Ratnágiri.

130. *Kolába.*—The yield of teak-trees measured 575,600 cubic feet against 658,000 in 1889-90, and of teak-beams 75,000 cubic feet against 35,000. The firewood exploited rose from 97,048 cubic feet in 1889-90 to 116,254 cubic feet in 1890-91.

131. *Ratnágiri.*—The outturn of teak was 122,502 cubic feet against 102,708 cubic feet, and of firewood 45 cubic feet against 1,080 cubic feet.

CHAPTER V.

FINANCIAL RESULTS.

132. The details of the year's transactions are shown in Forms 58 to 62.

133. The receipts and expenditure of the Southern Circle for the years 1889-90 and 1890-91 were :—

Year.	Receipts.	Charges.	Nett Revenue or Surplus.
	Rs.	Rs.	Rs.
1889-90 ...	13,25,676	6,50,343	6,75,333
1890-91 ...	13,19,826	7,04,955	6,44,871

134. The gross revenue of 1890-91 was more by Rs. 24,150 than that of 1889-90, but the net revenue shows a decrease of Rs. 30,462. This falling-off is mainly attributable to an unaccountable, and probably transitory, falling-off in the demand for timber : to the cost of the forest-survey and of shares to khots and rakhwáldárs, which exceeded that of 1889-90 by Rs. 12,389 : and to the increase of Rs. 15,511 in the cost of establishments.

135. The following statement shows the revenue and outstandings at the end of the year :—

Year	Amount realized.	Balance due to the Department at the end of the year.
	Rs.	Rs.
1889-90 ...	13,25,676	2,29,425
1890-91 ..	13,49,826	1,98,184

136. The actual profit on the year's transactions was, therefore, Rs. 6,44,871 +1,98,184 — 2,29,425 = 6,13,630.

137. The following statement shows the receipts and expenditure for the two years under each main head:—

Receipts	1889-90.	1890-91	Increase	Decrease
	Rs	Rs.	Rs	Rs.
I.—Timber and other produce removed from the forests by Government-agency.	9,10,829	9,52,184	41,355	..
II.—Timber and other produce removed from the forests by consumers or purchasers.	4,00,074	3,88,390	...	11,684
III.—Confiscated drift and waif wood ...	2,193	2,003	..	190
IV.—Revenue from forests not managed by Government.	214	11	...	203
V.—Miscellaneous	12,366	7,238	...	5,128
Total Receipts ...	13,25,676	13,49,826	41,355	17,205

	1889-90.	1890-91.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
EXPENDITURE				
A.—Conservancy and Works.				
I.—Timber and other produce removed from the forests by Government-agency	3,16,846	3,31,634	14,788	...
II.—Timber and other produce removed from the forests by consumers or purchasers.	5,847	6,911	1,064	...
III.—Confiscated drift and waif wood ..	75	76	1	...
IV.—Revenue from forests not managed by Government.	...	...	...	...
V.—Rent of leased forests and payments to shareholders in forests managed by Government.	5,231	12,436	7,205	...
VI.—Live stock, stores, tools and plant ...	1,578	803	...	775
VII.—Communications and buildings ...	5,494	6,130	636	...
VIII.—Demarcation, improvement and extension of forests.	62,303	74,482	12,179	...
IX.—Miscellaneous	1,951	5,954	4,003	...
Total, A.—Conservancy and Works ..	3,99,325	4,38,426	39,876	775
B.—Establishments.				
I.—Salaries	2,03,398	2,17,876	14,478	...
II.—Travelling-allowances	33,854	33,040	...	814
III.—Contingencies	13,766	15,613	1,847	...
Total, B.—Establishments ...	2,51,018	2,66,529	16,325	814
Total Charges, A and B. ..	6,50,343	7,04,955	56,201	1,589

RECEIPTS.

138. The revenue under main head I shows an increase of Rs. 41,355, which is distributed as follows:—Rs. 55,959 under '*b Firewood*,' and Rs. 18,996 under '*e, Grass and other minor produce.*' The increase is due to the sale of a larger quantity of fuel to the Railway-Company from the Northern Division of Kánara and from Belgaum, and to better prices obtained for myrobollams. The firewood sold for local consumption in Dhárwár also fetched Rs. 4,055 more than that sold in 1889-90. On the other hand, the receipts under '*a, Timber*,' show a decrease of Rs. 32,907, which occurs in the three divisions of Kánara (Rs. 29,652), Dhárwár (Rs. 4,667) and Kolába (Rs. 5,105); Belgaum alone showing an increase (Rs. 6,516).

139. The decrease is ascribable to a falling-off in the demand for timber, which cannot be satisfactorily explained.

II.—Timber and other produce removed from the Forests by Consumers or Purchasers.

140. In this class, too, there was a falling-off of Rs. 16,485 in the receipts under "*a, Timber*:" in Kolába-Ratnágiri (Rs. 10,257), Belgaum (Rs. 4,064) and in the Southern Division of Kánara (Rs. 4,194); the receipts of Northern Kánara show an increase of Rs. 3,296. The sub-heads *b*, *d* and *e*, respectively, show an increase of Rs. 13,433, 1,445, and 5,627. In the Northern and Central Divisions of Kánara, where there was an increase of Rs. 15,748, a larger quantity of firewood was sold for export, but the firewood-receipts of Belgaum and Kolába-Ratnágiri show, respectively, decreases of Rs. 1,172 and 1,949. The

increase under Sub-head *e* in Northern Kánara, Belgaum and Bijápur, is due to a better demand for *Shigekai* and other minor products.

141. Rs. 3,627 were paid by the Railway-Company for land in the Northern Division of Kánara during 1889-90. Hence the decrease under "V., Miscellaneous," in the receipts of 1890-91.

EXPENDITURE.

A.—Conservancy and Works.

142. The increase under '*I—b*' (Rs. 18,274) is due to increased exploitation of firewood.

143. The increase under *II* is mainly due to increased charges for cutting lines round coupes in Kolába. That under *V* and '*VIII c*' is due (1) to larger payments to *Khots* and *Rakhwaldárs* in Kolába, and (2) to a larger expenditure on Forest-Surveys. Under '*VIII e*' and *IX* there are increases of Rs. 4,197 and 4,003, respectively, due (1) to expenditure on fire protection and (2) to miscellaneous charges in Kolába.

B.—Establishments.

144. The increase under this head amounts to Rs. 15,511, which is chiefly ascribable (*a*) to acting pay of the Conservator and officers of Divisions, (*b*) to the appointment of an additional Assistant-Conservator, and (*c*) to the additional Subordinate Staff sanctioned for Ratnágiri.

145. The following shows the value calculated at seigniorage-rates of the forest-produce granted free :—

Division.	1889-90.					1890-91.				
	Timber—Cubic feet.	Bamboos of sorts.	Canes—Headloads.	Firewood—Cubic feet.	Value.	Timber—Cubic feet.	Bamboos of sorts.	Canes—Headloads.	Firewood—Cubic feet.	Value.
		No.			Rs. a. p.		No.			Rs. a. p.
Northern Division of Kanára	21,777	9,537	..	960	4,598 9 11	18,448	9,456	..	825	3,255 14 11
Central Division of Kánara	29,678	15,680	3	4,485	6,148 12 5	20,658	2,100	10	180	4,283 8 11
Southern Division of Kánara	20,099	850	3	..	4,4 9 11 4	22,010	650	..	..	4,510 2 7
Belgaum	740	50	..	..	141 13 3	2,119	155	..	..	434 15 11
Dhárwár	69½	..	..	36	35 0 0	1,145	350	..	..	633 0 0
Bijápur	..	..	..	..	.. ..	..	..	..	..	.. ..
Kolába	4,742	..	..	..	834 15 1	7,720	..	..	..	670 0
Ratnagiri	218½	..	..	..	35 0 0	..	..	..	..	.. ..
Total ..	77,324½	24,117	6	5,480	16,233 14 0	73,000	12,705	10	1,005	13,787 10 4

CHAPTER VI.

GENERAL REMARKS.

TOUR OF INSPECTION.

146. On the 1st April my camp was at Dudhmala in the Supa-Mahál of Kánara. From there, I travelled, *viâ* Jagalbet, to Astoli in the Belgaum-Division, where I arrived on the 13th. From Astoli I started on the 18th on a rapid tour through the jungles of the Northern, Central and Southern Divisions of Kánara, chiefly with a view to inspecting fire-protection-works and the result of fire-protection in the most valuable forests of Kánara. This occupied me until the 24th May, on which date I arrived at Haliyál from Yelláp ur. Next day, I left for Belgaum and closed my tour for the season.

147. On November 18th, I left Belgaum and arrived at Ganebáil, *en route* for Haliyál, *viâ* Golihalli and Nágargali, arriving there on December 2nd. There, I met the Divisional Officer, and, after a short stay, proceeded through the jungles of the Kalghatgi-Táluka of Dhárwár to Hubli, Annigeri, Navalgund and

Nargund in the Dhárwár-District. On December 15th, I arrived at Govankop in the Bijápur-District, and at my next camp, met the Divisional Officer. I then went to Shimekeri and Kaládgi. On the 26th December, I started for Bombay, arriving there on the 7th January, and at Pen, in the Kolába-Division, on the 9th. There I met the Divisional and *Dalhi*-Settlement-Officers. From Pen I marched through the Kolába-District to Poládpur, where I arrived on 23rd January. From Poládpur, I marched, *viâ* the Fitzgerald-Ghát, straight to Wáthár, and there took train on the 29th for Belgaum. At Belgaum, I halted 9 days, awaiting the arrival of my heavy baggage.

148. On February 10th, I reached Bágewádi in the Belgaum-District, and marched thence by easy stages to Dhárwár, where I arrived on the 13th. On the 16th, I left for Tadas and Mundgod, where I met the Divisional Officer. On the 7th March, I reached Bedasgaon. After staying there a week, I moved on to Sirsi, where I met the Divisional Officer of the Southern Division. On the 18th, camp was moved to Sonda, on the 24th to Kample, and on the 25th to Yellápur. At Yellápur, I met the Divisional Officer of the Central Division, and thence proceeded to Bomanhalli, which was reached on April 1st. There, I met the Working Plans' Officers.

149. *Dalhi.*—In my tour through Kolába, I naturally saw a good deal of *dalhi*, as the forests are full of it. It is a species of cultivation which differs only in name from *kumri* as understood and practised in the Southern Marátha Country. A good number of persons not belonging to the so-called wild-tribes (*Thákurs* and *Kátkaris*) have obtained *dalhi*-allotments. All really-arable land must long ago have been taken up for ordinary cultivation, and the *dalhiválás* have been driven back to the more or less steep and rocky slopes of hills which are generally sparsely covered with teak and junglewood-coppice. Only the most primitive method of cultivation is possible on ground of this nature and the following extract from my journal, describing a day with the *dalhiválás*, gives a sufficiently typical account of a *dalhi*-forest in Kolába:—

"Went up the Miriya Dongar [a congeries of high hills near Pen] which comprises in its area some 12 villages. *En route* looked at the cultivated *kumri*-allotment in Borgáon. It consists of 63 acres of land; very steep—20° to 50°; more rock and stone than soil. The jungle, part of which is still standing, consists of junglewood, with a decided sprinkling of teak; chiefly *bhendi, náná, jámbha, kindali*, &c. The method of cultivation is *kumri* pure and simple; the crop has been good between the stones, as is evident from the straw [the heads only of *ragi* are reaped]. Ploughing would be utterly impossible amongst such big boulders, and hoeing quite useless as the crop would be just as good without it.

"Saw *kumri* in Thákurwádi, Iráni, Dewalwádi, Panchgáon, Bandáni and Shir, which are all on the same stony, steep slopes, and where the method of cultivation pursued is the same as that of Borgáon. On all the less steep parts *varkas* cultivation is practised.

"The forests about here were evidently all once evergreen jungle, which very quickly turns to deciduous on being kumried. The transition from one to the other, and the effect of *kumri* on the character of the vegetation, are plainly discernible. Patches of evergreen are to be found here and there all over the hills but their area is small and the general character of the vegetation is deciduous, with a sprinkling of evergreen species which indicate very clearly what the nature of the jungle has been and how it has deteriorated."

150. During the year, Mr. Oliver, Assistant-Conservator, was deputed to give out fresh *dalhi*-land and to divide old blocks into yearly compartments. His proposals have received the sanction of Government, who, in their Resolution No. 3686, dated 29th May 1891, have declared that these allotments shall be final.

151. *Allotments of Bet-lands to Garden-Cultivators.*—In the settlement of the forests in Kánara, no attempt has been made to grapple with the difficulties which this question presents, on the ground, no doubt, that the cutting of *ráb* outside demarcated *bet*-lands is merely a privilege, and, therefore, not within the cognizance of a Forest-Settlement-Officer.

152. The *ráb*-question is, however, by far the most important matter to be dealt with in connection with the forests of Kánara, and no settlement can be considered complete unless the exercise of *ráb* by garden-proprietors has been placed on a well-defined and legal basis.

153. The impossibility of obtaining convictions in cases of illegal *ráb*-cutting in protected forest, in which a right to the produce is set up, has already been alluded to in paragraphs 35—37 of this report, and, as long as forests in the vicinity of gardens remain *protected*, the difficulty of protecting them does not seem likely to diminish. The inadequacy of Chapter IV of the Forest-Act, when applied to forests in which rights are claimed, is well-illustrated by cases which are constantly cropping up in the garden-tracts, and by a correspondence* lately submitted to Government.

*See Government Resolution No 6125 of 18th September 1891

154. At the time of the land-revenue-settlement, some garden-owners obtained *bet*, while others got none; the latter have, therefore, no fixed areas from which to procure *ráb*. Even the allotments, which were made, are not altogether satisfactory, some occupants having obtained less, and some more, than their apparent requirements. Everywhere, garden-proprietors claim the right to lop and pollard all forests within reach of their holdings and even those to whom *bet*-land has been given seem to consider themselves privileged to hack forests outside their allotments. And the worst of it is that the greater portion of the material, ostensibly cut for *ráb*, is used as firewood to produce an article of trade.

155. Compared with the whole forest-area of Kánara, the area now rábed for garden-cultivation may seem small, and capable of expansion to meet increasing demands, but an important point to be considered is that gardens are confined to certain well-watered tracts, and that the forests within reach of the gardens are becoming denuded. The result will be that, at some not very distant date—50 years according to the Mámledár of Sirsi—if nothing is done to prevent such a calamity, there will be neither gardens, nor forests, in the present *sapári*-tracts. I do not venture to predict exactly how long it will take to bring things to such an *impasse*, but that it will be the inevitable result, if the present conditions continue, I have no doubt whatever.

156. What appears to be needed is a special Settlement and Demarcation-Officer for *bet*-land, whose duty it should be to effect a redistribution (if that be now possible) of lands already given out: to fix the area to be allotted to each holding and make it appendant to such holding (which is not, I believe, the case in regard to land already given out): and to allot, on the principles laid down by Colonel Anderson, fresh *ráb*-land to all holdings which were gardens at the time of settlement, and to which no *bet*-land has been assigned.

157. *Financial Results of the year.*—There was general stagnation in the timber-market, which cannot be assigned with certainty to any particular cause. The epidemic of influenza, which gave rise to a great deal of sickness throughout the country during the preceding year, is alleged to have been the cause of the falling-off in the demand for timber. The immediate cause of the bad prices realized at our annual auction-sales was no doubt the large quantities of timber still remaining at the beginning of the season in the hands of dealers, who did not dare to increase their stocks at high rates. Taking these circumstances into consideration, the gross revenue (Rs. 13,49,826) realized may perhaps be considered satisfactory. During the preceding year, it amounted to Rs. 13,25,676, but for the purpose of comparison, it would be necessary to take into consideration the difference (Rs. 31,241) in the outstandings of the two years.

158. *Rules for Protected Forests.*—The want of rules, under the Act, regulating the exercise of privileges in protected forests in Kánara, is greatly felt, the old "permit rules" having become obsolete since the Forest-Act came into force. A draft of proposed rules was submitted to Government by the committee which sat at Yellápur in March, 1890. This draft, as modified by Government, has been published, as a preliminary measure, in the *Gazette* along with the proposed special rules for *bet*-lands, but has not yet received the final sanction of Government.

159. *Services of Officers.*—I am pleased to be able to report favourably of the conduct of the officers serving under me, with the exception of

Mr. G. K. Betham, who evinced no interest in his work which was generally unsatisfactory. On May 21st, he left on six months' sick-leave, which has been extended to one year.

160. I give, below, the names of executive officers who are reported by Divisional Officers to be worthy of special commendation :—

Mr. Bábáji Jotiba, Range-Officer, Bádámi.

Mr. Abdul Rauf, Forester, Bankápur.

Mr. V. S. Pálekar, Range-Officer, Kalghatgi.

Mr. B. G. Deshpánde, Acting Sub-Assistant-Conservator, Belgaum.

Mr. G. J. Rego, Range-Officer, Khánápur.

Mr. Mahábleshwar Nágápa, Range-Officer, Mundgod

Mr. L. S. Koppikar, Forester, Working Plans' Division.

161. The office establishment, generally, is reported to have done good work.

J L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Belgaum, 15th October 1891.

LIST OF STATEMENTS ACCOMPANYING THE FOREST ADMINISTRATION REPORT OF THE CONSERVATOR OF FORESTS, SOUTHERN CIRCLE, FOR 1890-91.

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,, ,, 54	Outturn of Timber and Fuel, 1890-91.
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,, ,, 57	Abstract showing the value of Timber and other Produce at Sale Depôts for the year 1890-91.
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J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

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FORM No. 49.

Forest Department, Bombay, Southern Circle.

Area of Reserved Forests, 1890-91.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other Heads.	Area on 1st March 1891.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square miles.	Acres.	Acres.	Acres.	Equivalent in Square miles		
Northern Division of Kanara.	Kánara ...	Haliyál and Kárwar ..	298,437	466	...	12	298,425	466	No. 6584 of 18th September 1890.	
Central Division of Kánara.	Kanara ..	Mundgod, Ankola and Kumta.	117,359	184	585¼	...	117,944¼	184	No. 6044 of 25th August 1890.	
Southern Division of Kánara.	Kanara ...	Sirsi and Honávar ...	21,771	34	35,807¾	...	57,579¾	90	No. 2392 of 2nd April 1890, No. 3103 of 5th May 1890, and No. 4839 of 14th July 1890.	
Belgaum	Belgaum ...	Kháuápur, Gokák, Belgaum, Sampgaon, Chikodi and Athni.	316,579 11/16	495	...	3	316,576 7/16	495	No 3678 of 28th May 1890 and No. 4439 of 25th June 1890.	
Dhárwár	Dhárwár ..	Dhárwár, Kalghatgi, Hángal, Bankápur, Kod, Gadag. Ron, Nargund, Hubli and Ránebennur.	109,850 3/40	172	...	...	109,850 3/40	172		
Bijápur	Bijápur ...	Bádámi, Hungund, Bijápur, Bágevádi, Muddebihál and Indi.	99,275 23/40	155	...	...	99,275 23/40	155		
Kolába	Kolába ...	Alibág, Panvel, Pen, Roha, Mahad and Mangaon.	188,150⅝	294	7,998 21/40 + 1,825⅞	2,177 21/40	195,797 9/40	306	No. 6225 of 2nd September 1890, No. 6988 of 3rd October 1890, No. 7525 of 24th October 1890, No. 8805 of 10th December 1890, No. 8805A of 10th December 1890, and No. 1279A of 17th February 1891.	
Ratnagiri	Ratnágiri ...	Dápoli, Khed, Rájápur, Málvan, Chiplun and Sangameshvar.	12,912⅝	20 7/16	72	105	12,879⅝	20	No. 4373 of 23rd June 1890, No 4373A of 23rd June 1890, and No. 8714 of 8th December 1890.	
		Total ...	1,164,336 1/16	1,820 7/16	46,289⅝	2,297 23/40	1,208,327 7/16	1,888		

Dated Belgaum, the 16th October 1891.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 49A.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Protected Forests, 1890-91.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1891.		Number and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Northern Division of Kánara.	Kánara ...	Supa	462,944	723	...	468	462,476	722	No. 3140, of 5th May 1890	Disforested.
Central Division of Kánara.	Kánara ...	Mundgod, Kumpta, Yellápur and Ankola.	568,116 17/20	888	...	636	567,480 17/20	887	No. 2329, 31st March 1890, No. 4840, 14th July 1890, No. 6044, 25th August 1890, No. 7038, 4th October 1890, and No. 1461, 23rd February 1891.	585¼ acres were transferred to Reserved Forests and the rest disforested.
Southern Division of Kánara.	Kánara ...	Siddápur, Honávar, Sirsi and Bhatkal.	802,432 3/20	1,254	...	35,812	766,620 3/20	1,198	No. 2392, 2nd April 1890, No. 3103, 5th May 1890, No. 4839, 14th July 1890, and No. 6691, 23rd September 1890.	4¼ acres were disforested and the rest transferred to Reserved Forests.
Belgaum	Belgaum ...	Belgaum, Chikodi, Gokák and Parasgad.	126,011 33/40	197	...	...	126,011 33/40	197		
Dhárwár	Dhárwár ...	Dhárwár, Kalghatgi, Bankápur, Kod, Hángal, Gadag, Ránebennur, Hubli and Karajgi.	166,659	260	...	1	166,658	260	No. 6701, 23rd September 1890.	
Bijápur	Bijápur ...	Bágalkot, Hungund, Bijápur, Bágevádi and Indi.	364	1	...	...	364	1		
Kolába	Kolába ...	Alibág, Panvel, Pen, Roha, Mahád, Mángaon and Nágothna.	56,926¼	89	33	3,225 9/10 19/20 + 16,684 19/20	37,049 2/5	58	No. 6225A., 2nd September 1890, No. 7525A., 24th October 1890, No. 429, 19th January 1891. No. 1279, 17th February 1891. and No. 1279B., 17th February 1891.	
		Total ...	2,183,453¼	3,412	33	56,827 17/20	2,126,659 2/20	3,323		

Dated Belgaum, the 16th October 1891.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

ANNUAL FORM No. 50.

Forest Department, Bombay, Southern Circle.

Register of Breaches of Forest Rules during 1890-91.

Forest Division and Civil District		Cases pending from 1889-90	New Cases of the year: Injury to Forest by fire	Unauthorized felling or appropriation of wood and minor Forest Produce.	Grazing without Permission or in Tracts in which Grazing is prohibited	Other Offences	Total new Cases of the year	Total Cases	Disposed of during the year: Convictions. Cases	Convictions. Persons	Acquittals Cases	Acquittals Persons	Total Cases	Total Persons	Cases pending at close of year.
Northern Division of Kánara.	A	...	3	13	1	...	17	17	14	20	3	3	17	23	...
	B	...	2	18	...	2	22	22	21	36	1	1	22	37	...
	C	...	...	6	...	...	6	6	...	...	...	...	...	...	...
	Total	...	5	37	1	2	45	45	35	56	4	4	39	60	...
Central Division of Kánara	A	1	3	3	...	2	8	9	8	15	1	3	9	18	...
	B	...	...	55	...	1	56	56	53	80	3	3	56	83	...
	C	...	1	3	...	...	4	...	...	...	...	...	...	.	...
	Total	1	4	61	...	3	68	65	61	95	4	6	65	101	...
Southern Division of Kánara.	A	...	...	18	...	...	18	18	7	13	10	30	17	43	1
	B	...	...	98	...	...	98	98	98	305	...	...	98	305	...
	Total	...	...	116	...	...	116	116	105	318	10	30	115	348	1
Belgaum Division ...	A	9	4	34	3	8	49	58*	31	75	21	57	52	132	4
	B	..	2	277	36	46	361	361	361	363	...	..	361	363	.
	C	...	...	38	...	...	38	38	...	...	..	...	.	.	...
	Total	9	6	349	39	54	448	457	392	438	21	57	413	495	4

Dhárwár Division ...	A	...	...	1	14	...	...	15	15	12	35	3	3	15	38	...
	B	...	...	...	52	...	...	52	52	52	159	...	...	52	159	...
	Total	...	...	1	66	...	...	67	67	64	194	3	3	67	197	...
Bijápur Division ...	A	...	...	...	9	2	...	11	11	7	15	3	10	10	25	1
	B	...	...	...	70	5	1	76	76	76	251	...	...	76	251	...
	Total	...	...	...	79	7	1	87	87	83	266	3	10	86	276	1
Kolába Division ...	A	...	†1	...	15	5	29	49	50	44	114	6	58	50	172	...
	B	...	...	3	192	...	71	266	266	266	855	...	...	266	855	...
	Total	...	1	3	207	5	100	315	316	310	969	6	58	316	1,027	...
Ratnágiri Division ...	A	...	...	1	22	...	4	27	27	23	31	4	5	27	36	...
	B	...	...	4	115	...	2	121	121	121	256	...	...	121	256	...
	C	...	...	1	5	...	18	24	24	...	...	...	...	...	...	...
	Total	...	...	6	142	...	24	172	172	144	287	4	5	148	292	...
Grand Total ...	A	...	*11	12	128	11	43	194	205	146	318	51	169	197	487	6
	B	...	...	11	877	41	123	1,052	1,052	1,048	2,305	4	4	1,052	2,309	...
	C	...	...	2	52	...	18	72	72	...	...	...	...	...	...	...

A means Cases taken into Court. B means Cases disposed of under Section 67 of the Indian Forest Act, 1878. C means Undetected cases.

* Of these 1 was struck off as the accused absconded, and 1 withdrawn.

† There was a mistake in the statement of the Divisional Office, Kolába. The number of cases pending from 1889-90, now shown, is correct.

Dated Belgaum, the 16th October 1891.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

745—8. C—7

FORM No. 51.

Forest Department, Bombay, Southern Circle.

Area of Forest Tracts protected from Fire during the Dry Season, 1891, to accompany Report for 1890-91.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1890.	During the dry season of 1891.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs. a. p.	
Northern Division of Kánara.	Kárwár Range Forests ...	1887-88	12,389	13,114	...	13,114	584 3 0	
	Haliyál do.	,,	124,167	164,320	1 1/8	164,318 7/8	5,089 11 6	
	Supa do.	1888-89	108,741	160,342	6	160,336	4,132 9 2	
	Total ...		245,297	337,776	7 1/8	337,768 1/8	9,806 7 8	
Central Division of Kánara.	Yelláp ur Range Forests ..	1888-89	34,304	44,016	444	43,572	859 7 3	
	Mundgod do. ...	,,	35,658	33,419	345	33,074	1,119 8 2	
	Ankola do. ...	,,	7,179	...	...	..	.....	
	Total ...		77,171	77,435	789	76,646	1,978 15 5	
Southern Division of Kánara.	Sirsi Range Forests	1887-88	81,419	84,289	4,225	80,064	530 15 2	
Belgaum Division.	Chikodi Range Forests ...	1883-84	2,816	895	...	895	40 13 0	
	Khánápur do. ...	1884-85	45,550	70,113	144	69,969	1,147 5 0	
	Belgaum do. ...	1886-87	13,120	10,600	...	10,600	148 12 0	
	Gokák-Sampgaon Range Forests.	1887-88	20,911	16,753	24	16,729	167 10 0	
	Total ...		82,397	98,361	168	98,193	1,504 8 0	
Dhárwár Division.	Dhárwár Range Forests ..	1888-89	2,999	2,261	...	2,261	145 4 0	
	Kalghatgi do. ...	,,	5,552	7,824	125	7,699	123 14 6	
	Bankápur do. ...	,,	4,436	5,986	497	5,489	62 6 6	
	Hángal do. ..	,,	1,705	4,086	...	4,086	37 14 0	
	Kod do. ...	,,	101	9,799	50	9,749	48 4 0	
	Gadag do. ...	,,	3,711	6,375	98	6,277	83 10 0	
	Total ...		18,504	36,331	770	35,561	501 5 0	
Bijápur Division.	Bádámi Range Forests ...	1889-90	25,382	19,200	..	19,200	145 0 0	
	Bágalkot do.	,,	20,488	21,760	...	21,760	255 0 0	
	Total ...		45,870	40,960	...	40,960	400 0 0	
Kolába Division.	Pen Range Forests ...	1888-89	4,859	Nil.	Nil.	Nil.	50 5 0	No special measures were taken to protect the forests from fires. The amount expended was on account of labour for extinguishing fires.
	Nágothna Range Forests ...	,,	6,147					
	Roha do. ...	,,	7,752					
	Mángaon do. ...	,,	344					
	Panvel do. ...	,,	700					
	Alíbág do. ...	1889-90	..					
	Total ...		19,802	..	...	...	50 5 0	
Ratnágiri Division.	Dápoli Range Forests ...	1889-90	172	2,816	3/10	2,815 17/10	10 5 6	
	Málvan do. ...	,,	190	173	...	173	2 5 6	
	Total ...		362	2,989	3/10	2,988 7/10	12 11 0	
	Grand Total ...		570,822	678,141	5,959 1/10	672,181 19/10	14,785 3 3	

Dated Belgaum, the 16th October 1891.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 52.

Forest Department, Bombay, Southern Circle.

Area of Plantations, 1890-91.

Division.	Name of Plantation.	Area in Acres. On 1st April 1890.	Added during the year.	Excluded during the year.	Area on 31st March 1891.	Receipts. Of the year.	Charges. Of the year.	Remarks.
	Regular Plantations.	A. g.	A. g.	A. g.	A. g.	Rs. a. p.	Rs. a. p.	
Northern Division of Kánara.	Kadra	357 0	...	...	357 0	.....	220 1 6	
	Mardi	110 0	...	...	110 0	.....	80 10 0	
	Sulgeri	110 0	...	...	110 0	.....	137 6 6	
	Kárwár	123 0	...	...	123 0	836 7 8	136 9 3	
	Bingi	20 0	...	...	20 0	146 13 11	...	
	Arge	25 0	5 0	...	30 0	.....	514 8 9	
	Barchi	221 0	...	...	221 0	.....	.....	
	Singatgeri	83 0	...	...	83 0	.....	.....	
	Bomanhalli	200 0	...	...	200 0	.....	.....	
Central Division of Kánara.	Devarbail	21 0	...	...	21 0	14 4 0	20 0 0	
	Arbail	5 0	...	...	5 0	1 2 0	1 0 0	
Southern Division of Kánara.	Kasarkod	298 0	...	...	298 0	72 0 0	282 13 6	
Belgaum Division	Kalasgade	13 0	...	...	13 0	.....	1 2 0	
	Linganmat	16 0	...	...	16 0	.....	.....	
	Deshnur	150 0	...	...	150 0	.....	.....	
Dhárwár Division	Kelgeri	21 0	...	...	21 0	.....	.....	
	Kambarganvi	...	25 0	...	25 0	.....	297 8 1	
	Devikop	29 0	...	...	29 0	.....	15 0 0	
	Kalkundi	125 0	150 0	...	275 0	.....	453 3 4	
	Hirur	...	12 0	...	12 0	.....	28 14 0	
Bijápur Division	Anantpur	90 5	...	...	90 5	.....	25 0 0	
	Mamdápur	174 0	...	...	174 0	.....	78 0 0	
	Shivapur	12 0	...	...	12 0	.....	.....	
Kolába Division	Warsoli	10 0	...	10 0	...	805 0 0	.....	Disforested.
	Ramdharni	50 0	...	...	50 0	.....	.....	
	Rájwádi	12 0	...	...	12 0	.....	9 15 0	
Ratnágiri Division	Dápoli	...	*75 0	...	75 0	.....	85 4 6	*Of these 52 acres are from cultural operations and the rest newly added during the year.
	Total, Regular Plantations...	2,275 5	267 0	10 0	2,532 5	1,875 11 7	2,387 0 5	
	Cultural Operations.							
Central Division of Kánara.	Sahasarawali	12 0	...	...	12 0	.....	.....	
	Yellápur	26 0	...	...	26 0	60 13 0	139 4 6	
	Harwáda	1 0	...	...	1 0	14 0 0	.....	
	Baleguli	8 0	...	...	8 0	5 0 0	34 6 6	
Southern Division of Kánara.	Banwasi	27 0	...	...	27 0	.....	.....	
	Anegundi	7 0	...	...	7 0	.....	.....	
	Kalkatti	2 0	...	...	2 0	.....	.....	
Belgaum Division	Three kumri villages in Belgaum	21 0	29 0	...	50 0	.....	1 0 0	
	Nagargali	0 10	...	...	0 10	.....	1 8 0	
	Sowing seeds in Konnur jungle	40 0	160 0	...	200 0	.....	32 0 0	
	Mawlunge	...	12 0	...	12 0	.....	.....	
	Umbgaon	...	10 0	...	10 0	.....	1 12 0	
	Kunburgi	...	12 0	...	12 0	.....	2 1 0	
	Bhogoli	...	8 0	...	8 0	.....	2 0 0	
	Nittur	...	7 0	...	7 0	.....	0 4 6	
	Isápur	...	12 0	...	12 0	.....	.....	
	Shiroli	...	5 0	...	5 0	.....	.....	
	Gunji	...	12 0	...	12 0	.....	.....	
	Maskenhatti	...	2 0	...	2 0	.....	.....	
	Nandgad	...	12 0	...	12 0	.....	.....	
	Gundoli	...	4 0	...	4 0	.....	.....	
	Talevadi	...	5 0	...	5 0	.....	.....	
	Ghotgali	...	3 0	...	3 0	.....	.....	
	Golehalli	...	2 0	...	2 0	.....	.....	
	Ramgurwádi	...	2 0	...	2 0	.....	.....	
	Karalgi	...	4 0	...	4 0	.....	.....	
	Degaum	...	3 0	...	3 0	.....	.....	
	Ragikumri	...	5 0	...	5 0	.....	.....	
	Manjarpai	...	1 0	...	1 0	.....	.....	
	Hemmadge	...	300 0	...	300 0	.....	1 8 0	
	Bagarnal	...	126 0	...	126 0	.....	.....	
	Biranboli	...	200 0	...	200 0	.....	.....	
	Mastiholi	...	5 0	...	5 0	.....	.....	

FORM No. 52—*continued.*

Division.	Name of Plantation.	Area in Acres. On 1st April 1890.	Added during the year.	Excluded during the year.	Area on 31st March 1891.	Receipts. Of the year.	Charges. Of the year.	Remarks.
		A. g.	A. g.	A. g.	A. g.	Rs. a. p.	Rs. a. p.	
	Cultural Operations—contd.							
Dhárwár Division	Kambarganvi	0 20	375 0	0 20	375 0	.....	59 6 0	
	Hosur	7 0	300 0	...	307 0	.....	132 1 0	
	Hunshikumri	...	300 0	...	300 0	.....		
	Karkikop	1 0	...	...	1 0	.....	.....	
	Dhundshi	80 0	...	...	80 0	.....	.....	
	Allipur	16 0	...	...	16 0	.....	.....	
	Babapur	80 0	47 0	...	127 0	.....	32 8 0	
	Channikatti	10 0	...	...	10 0	.....	.....	
	Basapur	10 0	...	...	10 0	.....	.....	
	Harikatti	2 0	...	...	2 0	.....	.....	
	Banihatti	42 0	...	...	42 0	.....	17 4 0	
	Heltikota	...	200 0	...	200 0	.....	25 11 0	
	Ragikallapur	...	25 0	...	25 0	.....	3 14 6	
	Kalkeri	...	200 0	...	200 0	.....	15 12 6	
	Galginkatti	...	470 0	...	470 0	.....	45 12 0	
	Tersikop	...	300 0	...	300 0	.....	38 3 6	
	Kalkundi	...	100 0	...	100 0			
	Hindasgeri	...	400 0	...	400 0	.....	36 3 6	
	Halekkoti-Chikkeri	...	706 0	...	706 0	.....	118 13 0	
	Dudihalli	...	51 0	...	51 0	.....	43 15 0	
	Nidnegal	...	44 0	...	44 0	.....	20 10 0	
	Ballapur	...	8 0	...	8 0	.....	7 2 0	
	Chikabbar	...	46 0	...	46 0	.....	19 12 0	
	Medleri	...	144 0	...	144 0	.....	41 15 0	
	Dumbal	...	463 0	...	463 0	.....	94 11 0	
	Sankadwadak	...	268 0	...	268 0			
	Nabapur	...	172 0	...	172 0			
Bijápur Division	Mamdápur	216 0	...	...	216 0	.....	.....	
	Kaládgi	195 0	...	...	195 0	.....	.....	
	Jaknur	9 0	...	...	9 0	.....	.....	
	Khánápur	0 20	...	...	0 20	.....	.....	
	Nagral	0 20	...	...	0 20	.....	.....	
	Hosur	...	2 0	...	2 0	.....	.....	
	Mangalur	...	2 0	...	2 0	.....	.....	
Kolába Division	Sáttád	81 0	...	...	81 0	.....	0 8 0	
	Ektád	...	5 0	...	5 0	.....	57 8 0	
Ratnágiri Division	Dápoli	118 0	16 0	52 0	82 0	.....	.....	
	Khed	17 0	...	...	17 0	.....	.....	
	Chiplun	73 0	...	...	73 0	.....	.....	
	Sangameshvar	122 0	47 0	...	169 0	.....	.....	
	Málvan	30 0	...	...	30 0	.....	.....	
	Total, Cultural Operations	1,254 30	5,632 0	52 20	6,834 10	79 13 0	1,027 6 6	
	Grand Total	3,529 35	5,899 0	62 20	9,366 15	1,955 8 7	3,414 6 11	

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Dated Belgaum, the 16th October 1891.

FORM No. 54.

Forest Department, Bombay, Southern Circle.

Outturn (in cubic feet, solid,) of Timber and Fuel during the year 1890-91 and Agency of Exploitation.

Division.	Timber in the rough logs.					Timber in the rough poles.					Sawn or squared timber.					Miscellaneous.					Fuel.					Total.
	Government.	Purchaser.	Free grants.	Right-holders.	Total.	Government.	Purchaser.	Free grants.	Right-holders.	Total.	Government.	Purchaser.	Free grants.	Right-holders.	Total.	Government.	Purchaser.	Free grants.	Right-holders.	Total.	Government.	Purchaser.	Free grants.	Right-holders.	Total.	Outturn.
	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.
Northern Division of Kánara	88,757	56,756	6,597	..	152,110	32,700	250	1,030	..	34,040	206,729	13,338	8,821	..	228,888	Bamboos No. 3240 1,519	Bamboos No. 2,682,4[illegible]1	Bamboos No. 9,450	..	Bamboos No. 2,695,151 1,519	298,032	523,062	825	There are no right-holders except in regard to free grazing and rab, the quantity and value of which cannot be assessed.	821,919	Bamboos No. 2,695,151 1,233,476
Central Division of Kánara	101,503	50,925	20,005	..	172,433	22,029	1,848	653	..	24,530	443	..	..	..	443	Bamboos No. 2380 2,837	Bamboos No. 1,011,449	Bamboos No. 2100	..	Bamboos No. 1,015,929 2,837	9,828	798,138	180		808,156	Bamboos No. 1,015,929 1,008,399
Southern Division of Kánara	..	92,496	22,910	..	115,406	..	50	..	..	50	34,561	..	..	..	34,561	Sandalwood Khandis 61-1-10	Bamboos No. 118,705	Bamboos No. 650	..	Sandalwood Khandis 61-1-10 Bamboos No. 119,355	18,630	134,521	..		153,151	Sandalwood Khandis 61-1-10 Bamboos No. 119,355 3[illegible]3,168
Belgaum	..	4,424	..	..	4,424	43,832	620	2,119	..	46,571	15,670	5,500	..	..	21,170	6,974	Bamboos No. 362,214 57	Bamboos No. 155	..	Bamboos No. 362,369 7,031	2,507,844	222,157	..		2,730,001	Bamboos No. 362,369 2,809,197
Dhárwár	..	..	..	..	..	73,531	597	1,145	..	75,273	..	..	..	..	..	.....	Bamboos No. 290,670	Bamboos No. 350	..	Bamboos No. 291,020	217,044	49,330	..		266,374	Bamboos No. 291,020 341,047
Bijápur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	5,710	.....	..	5,710	..	291,019	..		291,019	296,729
Kolába	..	..	..	..	..	75,000	572,540	7,720	708	655,968	..	..	..	..	..	.....	.....	.....	..	....	..	116,254	..		116,254	772,222
Ratnágiri	..	..	..	..	..	31,866	90,636	..	..	122,502	..	..	..	..	..	.....	.....	.....	..	....	45	..	..		45	122,547
Total ..	190,260	204,601	49,512	..	444,373	279,018	666,541	12,667	708	958,934	257,403	18,838	8,821	..	285,062	11,330 Bamboos No. 5,620 Sandalwood Khandis 61-1-10	5,767 Bamboos No. 4,465,499	.... Bamboos No. 12,705	..	17,097 Bamboos No. 4,483,824 Sandalwood Khandis 61-1-10	3,051,433	2,134,481	1,005	..	5,186,919	6,892,385 Bamboos No. 4,483,824 Sandalwood Khandis 61-1-10

Dated Belgaum, the 16th October 1891

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

R 745—S.C.—8

FORM No. 55.

Forest Department, Bombay, Southern Circle.

Outturn of Minor Forest Produce.

Division.	Description of Produce.	Produce removed or utilized.									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Northern Division of Kánara.	Fees from Medars	No. of Bamboos	...	...	24,000	30 0 0	...	...	...	...	24,000	30 0 0
	Charcoal	Cubic feet.	...	...	500	15 5 0	...	...	...	...	500	15 5 0
	Grazing fees	...	...	...	...	6,297 3 9	...	...	...	...	...	6,297 3 9
	Honey	...	...	...	...	620 0 0	...	...	...	...	...	620 0 0
	Stones	Cubic feet.	...	...	5,050	7 14 3	...	...	...	...	5,050	7 14 3
	Myrobollams	Khandis.	1,170	17,915 6 7	...	...	...	...	...	...	1,170	17,915 6 7
	Shigekai	...	...	...	...	3,550 0 0	...	...	...	...	...	3,550 0 0
	Sand	Cubic feet.	...	...	4,200	2 10 0	...	...	...	...	4,200	2 10 0
	Pepper	...	...	...	...	8 0 0	...	...	...	...	...	8 0 0
	Cinnamon bark	...	...	...	...	200 0 0	...	...	...	...	...	200 0 0
	Tapping fees on Baini trees	...	...	...	664	41 8 0	...	...	...	...	664	41 8 0
	Wild turmeric	...	...	...	...	41 0 0	...	...	...	...	...	41 0 0
	Canes	Head-loads.	...	...	123	30 12 0	...	...	...	...	123	30 12 0
	Earth	Cubic feet.	...	...	5,850	3 11 0	...	...	...	...	5,850	3 11 0
	Kájra seed	...	...	...	...	12 4 0	...	...	...	...	...	12 4 0
	Shembe bark	...	...	...	...	56 4 0	...	...	...	...	...	56 4 0
	Fruits	...	...	...	...	14 4 0	...	...	...	...	...	14 4 0
	Total	...	...	17,915 6 7	...	10,930 12 0	...	.....	...	...	...	28,846 2 7
Central Division of Kánara.	Reeds	...	...	...	8,200	10 4 0	...	...	...	...	8,200	10 4 0
	Bamboos on contract	...	...	...	150,000	87 0 0	...	...	...	...	150,000	87 0 0
	Grazing fees	...	...	...	...	6,993 12 10	...	...	...	...	...	6,993 12 10
	Earth and stones	Cubic feet.	...	...	9,486	26 14 0	...	...	...	...	9,486	26 14 0
	Canes	Head-loads.	...	...	158	39 6 0	10	2 8 0	...	...	168	41 14 0
	Honey	...	...	...	...	1,368 4 0	...	...	...	...	...	1,368 4 0
	Rámtal and Rámpatri	...	...	...	...	940 0 0	...	...	...	...	...	940 0 0
	Pepper	...	...	...	...	398 5 4	...	...	...	...	...	398 5 4
	Cinnamon	...	...	...	...	463 5 4	...	...	...	...	...	463 5 4
	Káju seed	...	...	...	...	14 0 0	...	...	...	...	...	14 0 0
	Grass bundles	...	61,125	200 15 7	1,000	0 8 0	...	...	...	...	62,125	201 7 7
	Grass	...	...	...	...	31 12 0	...	...	...	...	...	31 12 0
	Myrobollams	Khandis.	225 365 lbs.	3,679 14 1	...	...	...	...	...	...	225 365	3,679 14 1
	Shigekai	Do.	1 478 lbs.	44 1 7	...	...	...	...	...	...	1 478	44 1 7
	Shige bark	Do.	...	...	23 546	29 15 6	...	...	...	...	23 546	29 15 6
	Tapping fees on Baini trees	...	...	...	718	44 14 0	...	...	...	...	718	44 14 0
	Horns and skin	...	...	...	3	1 4 0	...	...	...	...	3	1 4 0
	Catechu	...	...	...	...	1,001 0 0	...	...	...	...	...	1,001 0 0
	Quarry fees	...	...	...	...	3 6 0	...	...	...	...	...	3 6 0
	Total	...	...	3,924 15 3	...	11,453 15 0	...	2 8 0	...	...	...	15,381 6 3
Southern Division of Kánara.	Myrobollams	Khandis.	1,622 16 9	26,418 9 7	...	...	...	...	...	...	1,622 16 9	26,418 9 7
	Shigekai	Do.	12 12 3¼	288 12 8	...	...	...	...	...	...	12 12 3¼	288 12 8
	Shige bark	Maunds.	...	...	563¼	140 14 0	...	...	...	...	563¼	140 14 0
	Grazing fees	...	...	...	...	9,863 14 6	...	...	...	...	...	9,863 14 6
	Honey	...	...	...	...	1,565 0 0	...	...	...	...	...	1,565 0 0
	Palm trees	...	...	...	...	186 0 0	...	...	...	...	...	186 0 0
	Rámpatri and Cinnamon	...	...	...	...	276 0 0	...	...	...	...	...	276 0 0
	Thorns and Stakes	Cart-loads.	...	...	24	3 10 0	...	...	...	...	24	3 10 0
	Canes	Head-loads.	...	...	394	180 0 0	...	...	...	...	394	180 0 0
	Stones	Cart-loads.	...	...	1,472	92 8 0	...	...	...	...	1,472	92 8 0
	Tapping fees on Baini trees	...	...	...	...	260 15 0	...	...	...	...	...	260 15 0
	Wild pepper	...	...	...	...	71 1 0	...	...	...	...	...	71 1 0
	Alekáistu	...	...	...	...	2 8 10	...	...	...	...	...	2 8 10
	Catechu	...	...	...	...	3,552 0 0	...	...	...	...	...	3,552 0 0
	Bajrebet	...	...	...	...	1,925 0 0	...	...	...	...	...	1,925 0 0
	Total	...	...	26,707 6 3	...	18,119 7 4	...	...	...	...	...	44,826 13 7
Belgaum Division.	Myrobollams	Khandis.	5,925·7	83,606 7 5	...	...	...	...	...	...	5,925. 7	83,606 7 5
	Canes	Head-loads.	...	...	132	8 4 0	...	...	...	...	132	8 4 0
	Grazing fees	...	...	...	...	18,105 10 11	...	...	...	...	...	18,105 10 11
	Grass from kurans	...	...	...	...	6,195 8 0	...	...	...	...	...	6,195 8 0
	Grass	Head-loads.	...	...	282	4 6 6	...	...	...	...	282	4 6 6
	Tapping fees on toddy trees	...	...	...	223	13 15 0	...	...	...	...	223	13 15 0
	Stones	Cubic feet.	...	...	2,375	11 4 0	...	...	...	...	2,375	11 4 0
	Do.	Cart-loads.	...	...	10,633	728 11 0	...	...	...	...	10,633	728 11 0
	Do.	Donkey-loads.	...	...	8,580	134 1 0	...	...	...	...	8,580	134 1 0
	Earth	Cart-loads.	...	...	16	1 0 0	...	...	...	...	16	1 0 0
	Do.	Head-loads.	...	...	13	0 3 3	...	...	...	...	13	0 3 3
	Sand	Cubic feet.	...	...	24,678	15 5 9	...	...	...	...	24,678	15 5 9
	Thorns	Cart-loads.	...	...	113	42 6 0	...	...	...	...	113	42 6 0
	Do.	Bullock-loads.	...	...	763	56 14 6	...	...	...	...	763	56 14 6
	Do.	Head-loads.	...	...	357	17 3 6	...	...	...	...	357	17 3 6
	Tarwad bark	Do.	...	...	458	42 15 0	...	...	...	...	458	42 15 0
	Bundargi leaves	Do.	...	...	264	12 6 0	...	...	...	...	264	12 6 0
	Wild date palm leaves	Cart-loads.	...	...	691	357 8 0	...	...	...	...	691	357 8 0
	Do. do.	Head-loads.	...	...	5,209	162 12 6	...	...	...	...	5,209	162 12 6
	Charcoal	Cubic feet.	11,500	1,643 6 0	387	3 15 0	...	...	...	...	11,887	1,647 5 0
	Balad bark	Cart-loads.	...	...	4	8 0 0	...	...	...	...	4	8 0 0
	Nutti bark	Head-loads	...	...	8	1 0 0	...	...	...	...	8	1 0 0
	Shigekai	Maunds.	...	...	6,800	3,961 0 0	...	...	...	...	6,800	3,961 0 0
	Honey	Do.	...	...	519	511 0 0	...	...	...	...	519	511 0 0
	Gum	Do.	...	...	559	944 0 0	...	...	...	...	559	944 0 0
	Cinnamon	Do.	...	...	240	119 0 0	...	...	...	...	240	119 0 0
	Tamarind	Do.	...	...	10	3 0 0	...	...	...	...	10	3 0 0
	Fruit farm	...	...	...	...	4 14 0	...	...	...	...	...	4 14 0
	Total	...	...	85,249 13 5	...	31,466 3 11	...	...	...	...	...	1,16,716 1 4

FORM No. 55—*continued.*

Division.	Description of Produce.	Produce removed or utilized.									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Dhárwár Division.	Myrobolams ... Khandis.	7 19 50	89 12 0	2	17 0 0	...	...	...	...	9 19 80	106 12 0
	Grass ...Bundles and pullies.	...	...	61,953	127 14 0	...	...	...	...	61,953	127 14 0
	Do. in kurans sold by Auction	...	...	...	1,720 8 0	...	...	...	...	...	1,720 8 0
	Do. for thatching, Bundles.	...	...	131	2 0 0	...	...	...	...	131	2 0 0
	Do. for do. ... Cart-loads.	...	...	4	0 12 0	...	...	...	...	4	0 12 0
	Do. Madi ... Auction.	...	...	...	10 4 0	...	...	...	...	...	10 4 0
	Stones ... ... Cubic-feet.	...	...	4,062	182 11 0	...	...	...	...	4,062	182 11 0
	Earth ... ... Do.	...	...	87	3 13 0	...	...	...	...	87	3 13 0
	Thorns ... ... Do.	...	...	4,777	283 15 0	...	...	...	...	4,777	283 15 0
	Manure ... ... Auction.	...	...	...	4 0 0	...	...	...	...	...	4 0 0
	Royalty on tapping toddy trees.	...	...	387	24 3 0	...	...	...	...	387	24 3 0
	Do. on toddy tree branches. Loads.	...	...	1,029	72 6 0	...	...	...	...	1,029	72 6 0
	Bábul pods... ... Auction.	...	...	...	204 0 0	...	...	...	...	...	204 0 0
	Banadurbi fruits ... Do.	...	...	...	11 0 0	...	...	...	...	...	11 0 0
	Mango fruits ... Do.	...	...	...	16 14 6	...	...	...	...	...	16 14 6
	Tamarind fruits ... Do.	...	...	...	25 5 6	...	...	...	...	...	25 5 6
	Wire creepers ... Loads.	...	...	...	0 14 0	...	...	...	...	...	0 14 0
	Marking nuts ... Auction.	...	...	...	30 4 0	...	...	...	...	...	30 4 0
	Honey ... ... Do.	...	...	...	191 0 0	...	...	...	...	...	191 0 0
	Green leaves ... Loads.	...	...	88	16 8 0	...	...	...	...	88	16 8 0
	Plantains ... ... Do.	...	...	...	1 0 9	...	...	...	...	...	1 0 9
	Thatching grass ... Auction.	...	...	...	22 0 0	...	...	...	...	...	22 0 0
	Kuranj fruits and Jujubs ... ... Do.	...	...	...	171 4 0	...	...	...	...	...	171 4 0
	Total ...	...	89 12 0	...	3,205 10 9	...	...	...	...	...	3,295 6 9
Bijápur Division.	Stones ... ... Cubic feet.	...	...	1,96,586	2,886 10 3	...	...	...	...	1,96,586	2,886 10 3
	Earth ... ... ,,	...	...	17,211	102 5 7	...	...	...	...	17,211	102 5 7
	Thorns ... ... Cart-loads.	...	...	9	2 4 0	...	...	...	...	9	2 4 0
	Do. ... ... Bullock-loads.	...	...	340	42 8 0	...	...	...	...	340	42 8 0
	Do. ... ...Head-loads.	...	...	480	30 0 0	...	...	...	...	480	30 0 0
	Honey, fruits, gum tarwad-bark, &c. ... ... Auction.	...	...	...	2,430 8 0	...	...	...	...	...	2,430 8 0
	Leaves ... ... Cart-loads.	...	...	138	45 8 0	...	...	...	...	138	45 8 0
	Do. ... ... Bullock-loads.	...	...	105	13 2 0	...	...	...	...	105	13 2 0
	Do. ... ... Head-loads.	...	...	8,193	518 2 0	...	...	...	...	8,193	518 2 0
	Total ...	...	...	...	6,130 15 10	...	...	...	...	...	6,130 15 10
Kolába.	Harda and Shigekai... Auction.	...	...	...	925 0 0	...	...	...	...	...	925 0 0
Ratnágiri.	Harda	Mds. lbs. 9 20	18 4 7	...	...	...	...	...	...	Mds. lbs. 9 20	18 4 7

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

Dated Belgaum, the 16th October 1891.

FORM No. 56.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally during the year 1890-91.

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.	Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
TIMBER.									
Balance at commencement of the year.					*Removed by purchasers from Depôts.*				
Northern Division, Kánara. Teak logs	2,830	83,667			Teak logs	13,896	250,037		
Blackwood logs	59	1,195			Do. poles	29,023	69,178		
Junglewood ,,	226	4,858			Do. round pieces	3,471	8,524		
Teak round pieces for sleepers.	2,468	4,936			D , sleepers	1,501	1,911		
Do. sleepers	1,447	2,179			Do. planks	24	38		
Do. slabs	10,959	2,491			Do. pieces	1,060	3,351		
Do. pieces	41	85			Do. slabs	53,909	18,902		
Do. planks	24	38			Do. poles from branches	477	729		
			18,060	100,430	Do. rafters	17,534	62,830		
					Do. pieces of sorts	23,263	} 116,644		
Central Division, Kánara. Teak round pieces	3,079	12,193			Miscellaneous pieces	7,493			
Do. sleepers	601	1,024			Blackwood logs	623	6,767		
Do. logs	2,131	47,248			Do. poles	185	579		
Blackwood logs	469	3,373			Do. pieces	119	624		
Junglewood ,,	2,017	35,290			Junglewood logs	3,110	55,439		
Adzed rectangular teak sleepers	9	18			Do. pieces	932	3,689		
Teak slabs	20,418	15,313			Do. poles	9,180	14,641		
Sitting boards	72	.....			Miscellaneous pieces	...	7		
Round teak board	1	.....			Adzed rectangular sleepers	22	40		
Teak poles	2,072	15,069			Sawn timber	...	16,892		
Junglewood poles	154	697			Jiráiti pieces	19,929	18,622		
Blackwood ,,	39	146			Matti rafters	395	1,580		
Jiráiti pieces	2,476	2,144			Blackwood do.	23	115		
Miscellaneous pieces	...	53						186,119	651,045
Sawn timber	...	16,919			*Sold locally.*				
			34,429	142,363	Teak poles	552	796		
					Do. pieces	28	126		
Southern Division, Kánara. Teakwood	457	8,892			Teakwood	...	90		
Blackwood	28	441			Do. logs	15	154		
Junglewood	512	10,245			Blackwood poles	18	46		
Teak poles	66	203			Do. pieces	5	33		
Do. sleepers	604	604			Blackwood	...	17		
Do. slabs	41,856	10,464			Do. logs	11	160		
Do. round pieces for sleepers.	310	435			Junglewood poles	179	254		
					Do. pieces	106	806		
					Junglewood	...	456		
			43,832	31,404	Do. logs	74	332		
					Teak planks	3	4		
Belgaum Division. Teak logs	1	14			Casuarina poles	2	20		
Do. pieces	359	897			Do. thin poles	250	.....		
Do. poles from branches	477	720			Yoke and plough	2	.....		
Blackwood poles	21	48						1,305	3,394
Do. pieces	50	134			*Converted in Depôts.*				
Junglewood logs	27	31							
Do. pieces	224	922			Teakwood logs	33	1,526		
			1,159	3,095				33	1,526
					Lost or written off as useless.				
Dhárwár Division. Teak rafters	2,315	7,000							
Matti do.	445	450							
Blackwood do.	10	40			Junglewood poles (error in measurement)	...	122		
Jiráiti pieces	6,370	4,600							
			8,840	12,090				...	122
					Used by the Department.				
Kolába Division. Teak pieces of sorts	479	} 2,500							
Miscellaneous pieces.	142								
			621	2,500	Teak logs	17	330		
					Do. sleepers	14	21		
Ratnágiri Division. Teak pieces of sorts	2,555	} 12,408			Sawn timber		27		
Miscellaneous pieces.	528							31	378
			3,083	12,408	*Balance at close of the year.*				
Total balance	...	.....	119,024	311,240					
					Northern Division, Kánara. Teakwood logs	6,603	184,669		
Received from the Forests in Depôts.					Blackwood do.	234	6,323		
					Junglewood do.	698	19,565		
Teak logs	19,133	346,378			Teak round pieces	111	282		
Do. pieces	880	2,919			Do. sleepers	650	975		
Do. poles	40,722	79,766			Do. slabs	10,891	3,824		
Do. round pieces	569	2,719						19,187	215,638
Do. pieces of different classes	22,003	} 107,868							
Miscellaneous pieces	7,598				Central Division, Kánara. Teak round pieces	3,064	12,057		
Teak rafters	16,880	63,365			Do. poles	5,398	12,980		
Blackwood logs	629	1,298			Do. logs	3,776	45,152		
Do. poles	217	788			Do. sleepers	847	1,380		
Do. pieces	60	490			Do. slabs	8,569	6,953		
Junglewood logs	4,312	87,179			Adzed rectangular sleepers	9	18		
Do. pieces	708	2,767			Sitting boards	72	.....		
Do. poles	11,513	16,895			Round teak board	1	.....		
Adzed rectangular sleepers	822	46			Miscellaneous pieces	...	27		
Blackwood rafters	15	84			Blackwood logs	324	2,146		
Matti do.	269	1,159			Do. poles	133	402		
Jiráiti pieces	12,086	13,179			Junglewood logs	2,735	52,444		
					Jiráiti pieces	967	1,261		
			137,635	735,898				25,855	134,773

FORM No. 56—*continued.*

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
TIMBER—*continued.*				
Received from the Forests and sold locally.				
Teak poles	552	796		
Do. pieces	28	126		
Teakwood	...	90		
Do. logs	15	154		
Blackwood poles	18	46		
Do. pieces	5	33		
Blackwood	...	17		
Do. logs	11	160		
Junglewood poles	179	254		
Do. pieces	160	806		
Junglewood	...	456		
Do. logs	74	332		
Teak planks	3	4		
Casuarina poles	2	30		
Do. thin poles	250	.....		
Yoke and plough	2	.....		
			1,305	3,304
Received by conversion in Depôts.				
Teakwood logs	33	881		
Do. slabs	136	408		
Do. sleepers	360	442		
Miscellaneous pieces	...	1		
			529	1,732
Total Timber	...	.....	249,493	1,052,224
Balance at close of the year—contd.				
Southern Division, Kánara. — Teak	206	5,541		
Southern Division, Kánara. — Blackwood	4	71		
Southern Division, Kánara. — Junglewood	524	10,124		
			734	15,744
Belgaum Division. — Teakwood poles	9,398	12,964		
Belgaum Division. — Junglewood poles	2,514	3,090		
			11,912	16,054
Dhárwár Division. — Teak rafters	1,661	7,536		
Dhárwár Division. — Mattí do.	9	29		
Dhárwár Division. — Blackwood do.	2	9		
Dhárwár Division. — Jiráiti pieces	36	40		
			1,708	7,613
Kolába Division. — Teak pieces of sorts	1,804	6,000		
Kolába Division. — Miscellaneous pieces	611			
			2,475	6,000
Ratnágiri Division. — Miscellaneous pieces	94	230		
			94	230
Total Balance	...	.....	62,065	305,840
Total	...	.....	249,493	1,052,224
FIREWOOD.				
Balance at commencement of the year.				
Northern Division, Kánara. — Firewood ... Tons.	400	23,040		
			400	23,040
Central Division, Kánara. — Firewood ...Stacks.	38	684		
			38	684
Southern Division, Kánara. — Firewood ...Stacks.	280	5,040		
			280	5,040
Belgaum Division. — Firewood ...Stacks.	8,241	255,957		
			8,241	255,957
Dhárwár Division. — Firewood ...Stacks.	4,143	74,574		
			4,143	74,574
Total Balance	...	.....	...	359,295
Received from the Forests in Depôts.				
Firewood	...	3,043,741		
Charcoal	...	11,500		
			...	3,055,241
Received from the Forests and sold locally.				
Firewood	...	7,900		
Charcoal	...	17		
			...	7,917
Total Firewood	...	.....	...	3,422,453
Removed by purchasers from Depôts.				
Firewood	...	3,086,870		
Charcoal	...	11,500		
			...	3,098,370
Sold locally.				
Firewood	...	7,900		
Charcoal	...	17		
			...	7,917
Lost or written off as useless.				
Firewood	...	72		
			...	72
Balance at the close of the year.				
Northern Division, Kánara. — Firewood	...	23,040		
			...	23,040
Central Division, Kánara. — Firewood	...	2,352		
			...	2,352
Southern Division, Kánara. — Firewood	...	6,174		
			...	6,174
Belgaum Division. — Firewood	...	228,206		
			...	228,206
Dhárwár Division. — Firewood	...	56,322		
			...	56,322
Total Balance	...	.....	...	316,094
Total	...	.....	...	3,422,453
BAMBOOS.				
Received from the Forests and sold locally.				
Bamboos	5,646	.....		
			5,646	.....
Total Bamboos	...	.....	5,646	.....
Sold locally.				
Bamboos	5,646	.....		
			5,646	.....
Total Bamboos	5,646	.....	5,646	.....
SANDALWOOD.				
Balance at commencement of the year.				
Northern Division, Kánara. — Sandalwood billets	694	.....		
Removed by purchasers from Depôts.				
Sandalwood ... ... Khandis	116-18-9-26	.....		
Do. oil ... ... Tolas	215	.....		
Do. roots	399	.....		
Do. pieces	649	.....		
Do. chips and saw dust ... Cart-loads	252	.....		

FORM No. 56—*continued.*

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
SANDALWOOD—*continued.*				
Balance at commencement of the year—contd.				
Southern Division, Kánara. Sandalwood Khandis.	0-7-11-4	.....		
Do. oil ... Tolas.	511	.....		
Dhárwár Division. Roots	340	.....		
Sawdust Cart-loads.	½	.....		
Chips ... do.	2	.....		
Received from the Forests in Depôts.				
Sandalwood ... ... Trees.	143	.....		
Do. ... ... Khandis.	92 17 11	.....		
Do. ... ... Pieces.	849	.....		
Do. ... ... Roots.	119	.....		
Do. chips and sawdust ... Cart-loads.	23	.....		
Received from the Forests and sold locally.				
Sandalwood ... ... Trees.	487	.....		
Do. ... ... Roots.	12	.....		
Do. ... ... Pieces.	15	.....		
Do. ... ... Branches.	2	.....		
Received by conversion in Depôts.				
Sandalwood ... ... Khandis.	24 0 13	.....		
Sold locally.				
Sandalwood ... ... Trees.	487	.....		
Do. ... ... Roots.	12	.....		
Do. ... ... Pieces.	15	.....		
Do. ... ... Branches.	2	.....		
Converted in Depôts.				
Sandalwood ... ... Billets.	994	.....		
Do. ... ... Trees.	131	.....		
Lost or written off as useless.				
Sandalwood ... ... Khandis.	0 5 17	.....		
Balance at close of the year.				
Central Division, Kánara. Sandalwood. Trees.	7	.....		
Southern Division, Kánara. Sandalwood Khandis.	0-1-8-18	.....		
Do. oil Tolas.	296	.....		
Dhárwár Division. Sandalwood, Roots.	60	.....		
Do. Trees.	5	.....		
GRASS AND OTHER MINOR PRODUCE.				
Balance at close of the year.				
Northern Division, Kánara. Myrabollams ... ... Cds.	...	*285	... 285	
Central Division, Kánara. Shigekai. ... Cds.	...	1 15 7		
Grass ... Bundles.	182,168	.....	182,168 1 15 7	
Southern Division, Kánara. Myrabollams ... ... Cds.	...	424 12 25		
Shigekai. ... do.	...	0 8 0	... 425 0 25	
Belgaum Division. Myrabollams ... ... Cds.	...	26 11 0	... 26 11 0	
Total balance ...	...	.....	182,168 738 7 4	
Received from the Forests in Depôts.				
Myrabollams ... ... Cds.	...	9,006 12 21		
Shigekai ... ... do.	...	14 8 17		
Grass ... ... Bundles.	74,300	.....		
			74,300 9,021 1 10	
Received from the Forests and sold locally.				
Myrabollams ... ... Cds.	...	0 9 20	... 0 9 20	
Total Minor Produce ...	...	.....	256,468 9,759 18 6	
Removed by purchasers from Depôts.				
Myrabollams ... ... Cds.	*...	9,383 10 17		
Shigekai ... ... do.	...	7 18 5½		
Grass ... ... Bundles.	61,125	.....		
			61,125	9,391 8 22½
Sold locally.				
Myrabollams ... ... Cds.	...	0 9 20		
			...	0 9 20
Used by the Department.				
Grass ... ... Bundles.	15,100	.....		
			15,100	.....
Balance at close of the year.				
Northern Division, Kánara. Myrabollams ... ... Cds.	...	27 0 0		
			...	27 0 0
Central Division, Kánara. Shigekai ... Cds.	...	1 14 18½		
Grass ... Bundles.	180,243	.....		
			180,243	1 14 18½
Southern Division, Kánara. Myrabollams ... ... Cds.	...	301 14 1		
Shigekai. do.	...	6 19 0		
			...	308 13 1
Belgaum Division. Myrabollams ... ... Cds.	...	30 12 0		
			...	30 12 0
Total Balance ...	...	.....	180,243	367 19 19½
Total ...	...	.....	256,468	9,759 18 6

*Instead of 116½ baskets shown last year, their weight, which is 11 Cds., has been added to 274 of last year's return.

J. L. L. MacGREGOR,

Dated Belgaum, the 16th October 1891.

Conservator of Forests, Southern Circle.

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Abstract showing the value of Timber and other Produce at Sale Depôts for the year 1890-91.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	Number	Cubic feet.	Value.	Number	Cubic feet.	Value.	In favour of the year.	Against the year.	
TIMBER.									
Northern Division, Kánara.			Rs. a. p.			Rs. a. p.	Rs. a. p.	Rs. a. p.	
Teakwood	2,836	83,657	1,20,518 0 0	6,603	184,669	2,45,611 0 0	1,25,093 0 0	.....	
Blackwood	59	1,195	1,349 0 0	234	6,323	5,564 0 0	4,215 0 0	.....	
Junglewood	226	4,858	5,052 0 0	698	19,565	17,216 0 0	12,164 0 0	.....	
Teak round pieces	2,468	4,936	3,085 0 0	111	282	166 0 0	.....	2,919 0 0	
Do. sleepers	1,447	2,170	2,200 0 0	650	975	812 0 0	.....	1,388 0 0	
Do. slabs...	10,959	3,491	1,090 0 0	10,891	3,824	800 0 0	.....	290 0 0	
Do. pieces	41	85	28 0 0	...	...	.....	.....	28 0 0	
Do. planks	24	38	12 0 0	...	...	.....	.....	12 0 0	
Total ...	...	...	1,33,334 0 0	...	...	2,70,169 0 0	1,41,472 0 0	4,637 0 0	
Central Division, Kánara.									
Logs	4,617	85,906	84,220 0 0	8,835	99,742	93,623 0 0	9,403 0 0	.....	
Teak round pieces ...	3,079	12,193	6,214 0 0	3,034	12,057	4,600 0 0	.....	1,614 0 0	
Do. sleepers	610	1,039	1,432 0 0	856	1,348	535 0 0	.....	897 0 0	
Do. slabs...	20,418	15,313	1,191 0 0	8,589	6,053	690 0 0	.....	501 0 0	
Do. poles...	2,972	15,063	5,431 0 0	5,338	12,980	5,186 0 0	.....	245 0 0	
Sitting boards ...	72	...	10 0 0	72	...	10 0 0	.....	.....	
Miscellaneous scantlings ...	...	16,952	8,476 0 0	...	27	12 0 0	.....	8,464 0 0	
Round teak board	1	...	0 5 0	1	...	0 5 0	.....	.....	
Junglewood poles	154	607	72 0 0	...	...	.....	.....	72 0 0	
Blackwood poles	30	146	23 0 0	133	402	135 0 0	112 0 0	.....	
Jirgitiwood pieces	2,476	2,144	619 0 0	967	1,261	91 0 0	.....	528 0 0	
Total ...	...	...	1,07,688 5 0	...	...	1,04,882 5 0	9,515 0 0	12,321 0 0	
Southern Division, Kánara.									
Teakwood	457	8,892	12,226 0 0	266	5,349	5,962 0 0	.....	6,264 0 0	
Blackwood	28	441	379 0 0	4	71	61 0 0	.....	318 0 0	
Junglewood	512	10,245	10,245 0 0	524	10,124	8,224 0 0	.....	2,021 0 0	
Teak poles	65	293	128 0 0	...	...	.....	.....	128 0 0	
Teak round pieces	310	465	116 0 0	...	...	.....	.....	116 0 0	
Do. sleepers	604	604	1,208 0 0	...	...	.....	.....	1,208 0 0	
Do. slabs	41,856	10,464	1,674 0 0	...	...	.....	.....	1,674 0 0	
Total ...	...	...	25,976 0 0	...	...	14,247 0 0	.....	11,729 0 0	
Belgaum Division.									
Teak poles	...	...	.....	9,398	13,064	2,420 0 0	2,420 0 0	.....	
Junglewood do.	...	...	.....	2,514	3,090	635 8 0	635 8 0	.....	
Teak poles from branches ...	477	729	276 15 0	...	...	.....	.....	276 15 0	
Teak logs	1	14	14 0 0	...	...	.....	.....	14 0 0	
Do. pieces	359	897	389 8 0	...	...	.....	.....	389 8 0	
Junglewood logs	27	551	16 4 0	...	...	.....	.....	16 4 0	
Do. pieces	224	922	191 8 0	...	...	.....	.....	191 8 0	
Blackwood poles	21	48	10 4 0	...	...	.....	.....	10 4 0	
Do. pieces	50	134	26 8 0	...	...	.....	.....	26 8 0	
Total ...	...	...	924 15 0	...	...	3,055 8 0	3,055 8 0	924 15 0	
Dhárwár Division.									
Teak rafters	2,315	7,000	} 6,000 0 0	{ 1,661	7,535	} 2,800 0 0	.....	3,200 0 0	
Matti do.	145	450		{ 9	29				
Blackwood rafters	10	40		{ 2	9				
Jiratti pieces	6,370	4,000	4,000 0 0	36	40	20 0 0	.....	3,980 0 0	
Total ...	...	...	10,000 0 0	...	...	2,820 0 0	.....	7,180 0 0	
Kolába Division.									
Teak poles and miscellaneous pieces	621	2,500	250 0 0	2,475	6,000	850 0 0	600 0 0	.....	
Ratnágiri Division.									
Teak poles and pieces ...	3,083	12,408	1,000 0 0	94	230	40 0 0	.....	960 0 0	
Total Timber ...	...	...	2,79,173 4 0	...	...	3,96,063 13 0	1,54,642 8 0	37,751 15 0	
FIREWOOD.									
Northern Division, Kanara.									
Firewood ... ... Tons.	400	23,040	2,525 0 0	400	23,040	2,525 0 0	.....	.....	
Central Division, Kánara.									
Firewood ... ... Stacks.	38	684	28 0 0	38	684	28 0 0	.....	.....	
Do. ... ... Tons.	...	...	.....	17	1,008	136 0 0	136 0 0	.....	
Total ...	...	...	28 0 0	...	...	164 0 0	136 0 0	.....	
Southern Division, Kánara.									
Firewood ... ... Stacks.	280	5,040	210 0 0	348	6,174	257 0 0	47 0 0	.....	
Belgaum Division.									
Firewood ... ... Stacks.	8,241	2,55,957	11,743 6 0	7,261	231,855	10,310 0 6	.....	1,433 6 0	
Running firewood ...	...	...	.....	...	273	27 8 0	27 8 0	.....	
Lighting do. ...	...	...	.....	...	1,344	67 3 2	67 3 2	.....	
Firewood ... Head-loads.	...	...	.....	...	4,734	147 0 0	147 0 0	.....	
Total ...	...	...	11,743 6 0	...	...	10,551 11 2	248 11 2	1,433 6 0	
Dhárwár Division.									
Firewood ... ... Stacks.	4,143	74,574	4,143 0 0	3,129	56,322	3,129 0 0	.....	1,014 0 0	
Total Firewood ...	...	...	16,649 6 0	...	...	16,626 11 2	424 11 2	2,447 6 0	

FORM No. 57—*continued*

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	Number	Cubic feet.	Value.	Number	Cubic feet.	Value.	In favour of the year.	Against the year.	
SANDALWOOD.			Rs. a. p.			Rs. a. p.	Rs. a. p.	Rs. a. p.	
Northern Division, Kánara.									
Billets	994	...	1,800 0 0	...	...	.....	.....	1,800 0 0	
Central Division, Kánara.									
Sandalwood trees	...	...	.....	7	...	15 0 0	15 0 0	.....	
Southern Division, Kánara.									
Sandalwood ...Khandis.	...	0-7-11-4	47 0 0	...	0-1-8-18	9 0 0	.....	38 0 0	*
Do. oil ... Tolas.	511	...	96 0 0	296	...	55 0 0	.....	41 0 0	
Total ...	...	...	143 0 0	...	...	64 0 0	.....	79 0 0	
Dhárwár Division.									
Roots	340	...	100 0 0	60	...	50 0 0	.....	50 0 0	
Chips and saw-dust ...Cart-loads.	7½	...	35 0 0	...	...	.....	.....	35 0 0	
Sandalwood trees	...	...	.....	5	...	10 0 0	10 0 0	.....	
Total ...	...	...	135 0 0	...	...	60 0 0	10 0 0	85 0 0	
Total Sandalwood ...	...	...	2,078 0 0*	...	...	139 0 0	25 0 0	1,964 0 0	* In the last year's statement the total Rs. 2,356 was a mistake for Rs. 2,078.
MINOR PRODUCE.									
Northern Division, Kánara.									
Myrabollams ...Khandis.	...	274	2,740 0 0	27	...	405 0 0	.....	2,335 0 0	
Do. ...Buskets.	1,16½	...	100 0 0	...	...	.....	.....	100 0 0	
Total ...	...	...	2,840 0 0	...	...	405 0 0	.....	2,435 0 0	
Central Division, Kánara.									
Shigekai ... ...Khandis.	...	K. m. s. 1 15 7	20 0 0	...	K. m. s. 1 14 18½	20 0 0	.....	.....	
Grass ... ...Bundles.	182,168	...	598 0 0	1,80,243	...	563 0 0	.....	35 0 0	
Total ...	...	...	618 0 0	...	...	583 0 0	.....	35 0 0	
Southern Division, Kánara.									
Myrabollams ...Khandis.	...	423	4,465 0 0	...	K. m. s. 301 14 1	4,945 0 0	480 0 0	.....	
Shigekai ... ... do.	...	K. m. s. 0 8 0	10 0 0	...	K. m. s. 6 19 0	140 0 0	130 0 0	.....	
Total ...	...	...	4,475 0 0	...	...	5,085 0 0	610 0 0	.....	
Belgaum Division.									
Myrabollams ...Khandis.	...	K. m. s. 26 11 0	264 0 0	...	K. m. s. 30 12 0	405 0 0	141 0 0	.....	
Total Minor Produce ...	...	...	8,197 0 0†	...	...	6,478 0 0	751 0 0	2,470 0 0	† The total in the last year's statement, Rs. 16,130, was a mistake for Rs. 8,197.
Grand Total ...	...	* ...	3,08,007 10 0‡	...	...	4,19,307 8 2	155,843 3 2	44,033 5 0	‡ For difference between this and the Grand Total at the close of the last year, *vide* above remarks.

Dated Belgaum,
the 16th October 1891.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 57A.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Abstract showing the Value of Live and Dead Stock for the year 1890-91.

Description of Live and Dead Stock	On hand at commencement of the year.		On hand at the close of the year		Difference in Value.		Remarks
	Number	Value	Number	Value	In favour of the year	Against the year	
Direction		Rs.		Rs	Rs	Rs	
Office tents	2	900	2	900			
Tools, plant and office furniture		279		305	26		
Total		1,179		1,205	26		
Northern Division, Kanara.							
Forest bungalow at Halyál	1	2,700	1	2,700			
Range Forest Office at Halyál	1	900	1	900			
Forest Nákas	12	9,815	13	10,115	300		
Divisional Forest Office at Halyál	1	350	1	350			
Forest bungalow at Kádra	1	8,100	1	8,100			
Kodibag Depôt House	1	4,960	1	4 960			
Hill tent	1	350	1	350			
Tools, plant and office furniture		2,887		2,932	45		
Total		30,062		30 407	345		
Central Division, Kanara							
Forest bungalows at Yellápur	2	3,050	2	3,050			
Workshop at Yellapur	1	114	1	114			
Rest-house at Kohkeri	1	908	1	908			
Náka houses	14	4,201	14	4,201			
Old Range Office at Yellapur	1	250	1	250			
Rest house at Ramanguli	1	150	1	150			
Tent	1	350	1	350			
Range Forest Office at Ankola			1	300	300		
Tools, plant and office furniture		4,033		4,187	154		
Total		13,056		13,510	454		
Kanara Saw Mills.							
Crab winch	2	100				100	
Saw frame, horizontal, with 16 old saws	1	20				20	
Forges, portable	1	25				25	
Hauling machine	1	25	..			25	
Engine portable, 12 H. P.	1	2,000				2,000	
Anvils	2	40	..			40	
Other stores and furniture		140				140	
Total		2,350				2,350	
Southern Division, Kánara							
Office building at Sirsi	1	1,717	1	1,717			
Depôt house at Sirsi	1	1,119	1	1,119			
Forest Nákás	20	5,402	21	6,102	700		Rs. 400 were spent for additions and alterations to old nákás.
Rest house at Bilki	1	300	1	300			
Office tent	1	350	1	350			
Tools, plant and office furniture		3,114		3,145	31		
Total		12,002		12,733	731		
Belgaum Division							
Tent	1	300	1	300			
Rest-house	1	2 500	1	2 500	...	..	
Nákás	16	6,680	17	7,180	500	...	
Tools, plant and office furniture		3,015	..	3,374	359		
Total	...	12,495	...	13,354	859		

FORM No. 57A—*continued.*

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at the close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
		Rs.		Rs.	Rs.	Rs.	
Dhárwár Division.							
Rest-house	1	800	1	800	...	...	
Watch houses	9	2,700	9	27,00		...	
Tents	2	380	1	350	.	30	The old tent was sold.
Tools, plant and office furniture .. .	...	3,112	...	2,901		211	A theodolite was transferred to the Working Plans Office.
Total .	...	6,992	...	6,751	...	241	
Bijapur Division.							
Office tent	1	150	1	150	...	..	
Tools, plant and office furniture	..	812	...	812			
Total		962	...	962	...	...	
Kolaba Division							
Hill tent...	1	250	1	250	...	...	
Forest boat with fittings	1	300	1	300	...	...	
Tools, plant and office furniture .	...	*1,807	...	1,919	112	...	* The figures in the column "On hand at close of the year" of last year's statement were 1,202 which are corrected to 1,807. The mistake was in the Divisional-Office return for the last year.
Bullock	1	30	1	30		...	
Total		2,387	...	2,499	112	...	
Ratnágiri Division.							
Office tent	1	200	1	200	...	..	
Tools, plant and office furniture .. .	.	205	...	217	12	...	
Total ..	...	405	...	417	12	...	
Working Plans Division.							
Tents	2	500	2	500	...	...	
Tools, plant and office furniture	...	2,131	..	2,131	...	...	
Total ...	...	2,631	..	2,631	. .	...	

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

Dated Belgaum, the 16th October 1891.

FORM No. 58

FORM No. 58.

Forest Department, Bombay, Southern Circle.

Summary of Revenue and Expenditure of the different Divisions during the year 1890-91.

Budget Heads.	Direction.	Northern Division of Kánara.	Southern Division of Kánara.	Central Division of Kánara.	Dhárwár Division.	Ratnágiri Division.	Bijápur Division.	Kolába Division.	Belgaum Division.	Total for 1890-91.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
REVENUE.										
I.—Timber and other Produce removed from the Forests by Government Agency—										
a. Timber	.....	3,28,734 7 0	24,133 1 8	1,08,962 3 4	33,167 12 8	2,749 6 5	.....	9,230 1 6	23,768 7 5	5,30,745 8 0
b. Firewood and Charcoal	.....	30,513 0 1	578 13 6	400 13 0	11,659 4 0	8 4 0	.....	639 15 0	2,26,628 14 6	2,70,429 0 1
c. Bamboos	.....	0 13 6	.....	.....	.....	.....	.....	.....	.....	0 13 6
d. Sandalwood	.....	3,191 13 5	7,935 8 5	3,057 12 1	1,836 0 4	.....	.....	.....	77 0 1	16,118 2 4
e. Grass and other minor produce ...	.....	19,437 14 11	27,314 14 5	4,412 3 3	89 12 0	20 5 1	.....	.....	83,615 7 5	1,34,890 9 1
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—										
a. Timber	.....	21,228 9 8	18,829 4 9	14,136 8 4	878 5 0	7,613 6 9	818 14 0	73,570 0 2	5,060 13 3	1,42,135 13 11
b. Firewood and Charcoal	.....	25,863 13 2	2,378 9 9	18,360 8 0	666 9 2	482 3 8	10,360 11 9	24,257 6 0	5,631 11 6	88,001 9 0
c. Bamboos	.....	29,971 2 10	843 2 10	12,447 14 8	3,911 4 1	5 4 0	.....	5 8 0	5,341 10 2	52,525 14 7
d. Grazing and Fodder Grass	.....	6,297 3 9	9,863 14 6	6,993 12 10	16,549 14 0	277 10 9	6,945 4 0	1,575 4 0	24,306 7 2	72,809 7 0
e. Other minor produce	.....	4,639 15 3	8,479 7 11	4,160 13 5	1,351 4 9	36 14 0	6,055 9 10	1,046 13 6	7,145 14 0	32,916 12 8
III.—Confiscated, Drift and Waif Wood ...	.....	324 12 10	496 8 8	279 6 1	38 3 0	117 5 6	63 14 9	616 2 1	66 10 7	2,002 15 6
IV.—Revenue from Forests not managed by Government—										
a. Duty on Foreign Timber and other Forest produce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests	.....	.....	.....	.....	.....	3 1 8	.....	7 8 0	.....	10 9 8
V.—Miscellaneous—										
a. Fines and Forfeitures	.....	53 0 2	31 8 0	138 13 6	5 8 0	221 2 5	370 5 7	1,627 7 6	1,270 0 0	3,717 13 2
b. Refunds	.....	125 14 9	.....	.....	2 9 11	.....	.....	11 4 0	2 7 6	142 4 2
c. Other sources	.....	249 11 5	147 5 8	645 13 4	794 4 4	10 10 8	41 1 10	622 9 3	866 14 7	3,378 7 1
Total Revenue ...	.....	4,70,632 4 9	1,01,032 4 1	1,73,996 9 10	70,970 11 3	11,545 10 11	24,655 13 9	1,13,209 15 0	3,83,782 6 2	13,49,825 11 9

EXPENDITURE.

A.—Conservancy and Works.										
I.—Timber and other Produce removed from the Forests by Government Agency—										
a. Timber	.....	1,20,476 11 0	10,553 4 11	23,848 12 11	6,181 15 7	651 0 0	.....	2,172 1 0	6,011 6 10	1,69,695 4 3
b. Firewood and Charcoal	.....	14,432 3 0	540 5 2	472 8 2	3,691 2 6	.....	.....	.....	96,326 10 9	1,15,462 13 7
c. Bamboos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
d. Sandalwood	.....	204 5 2	823 6 7	359 0 7	132 1 6	.....	.....	.....	2 13 0	1,521 10 10
e. Grass and other minor Produce	.....	7,096 0 9	13,838 15 8	2,483 12 8	19 7 6	4 9 6	.....	.....	21,311 9 7	44,754 7 8
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers	.....	536 1 3	1,021 9 0	521 7 6	1,193 3 9	47 2 0	.....	2,135 6 8	1,455 14 0	6,910 12 2
III.—Confiscated, Drift and Waif Wood	.....	5 14 4	10 0 0	23 13 1	0 11 0	2 12 0	.....	28 5 3	4 2 0	75 9 8
IV.—Revenue from Forests not managed by Government—										
a. Duty on Foreign Timber and other Forest Produce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
V.—Rent of Leased Forests and Payments to Shareholders in Forests managed by Government	.....	.....	.....	.....	.....	.....	.....	12,436 6 3	.....	12,436 6 3
VI.—Live Stock, Stores, Tools and Plant—										
a. Purchase of Cattle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Feed and keep of Cattle	.....	.....	.....	9 0 0	.....	.....	.....	44 11 6	.....	53 11 6
c. Stores, Tools and Plant	.....	43 15 8	.....	9 15 0	112 3 6	38 0 0	.....	79 11 6	465 6 0	749 3 2
VII.—Communications and Buildings—										
a. Roads and Bridges	.....	892 10 2	11 0 0	660 13 0	.....	33 10 9	.....	.....	769 1 0	2,367 2 11
b. Buildings	.....	961 3 3	500 0 0	976 2 9	119 0 10	39 14 1	.....	37 0 0	634 13 9	3,268 2 8
c. Other Works	.....	61 14 0	432 5 3	.....	.....	0 6 6	.....	.....	.....	494 9 9
VIII.—Demarcation Improvement and Extension of Forests—										
a. Demarcation	.....	22 13 6	31 4 0	5,858 7 10	541 6 3	33 10 0	4 15 0	1,720 14 10	2,049 8 0	10,262 15 5
b. Compensation for Land and Rights	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
c. Surveys and Working Plans	.....	38,226 12 3	.....	.....	2,814 11 2	.....	299 0 0	6,720 4 6	36 0 0	48,096 11 11
d. Plantations	.....	656 3 3	283 14 6	361 11 8	1,548 4 2	96 8 9	195 11 7	136 6 3	43 10 3	3,322 6 5
e. Protection from Fire	.....	7,505 7 6	593 4 2	2,098 2 9	431 5 0	2 5 6	373 10 3	50 5 0	1,657 9 0	12,712 1 2
f. Other Works	.....	.....	.....	.....	67 8 0	.....	.....	.....	20 0 0	87 8 0
IX.—Miscellaneous—										
a. Refunds	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Law Charges	.....	.....	.....	.....	87 4 3	726 3 3	.....	77 1 1	.....	890 8 7
c. Other Charges	.....	68 0 0	187 15 10	58 7 9	24 2 0	4,275 1 11	8 12 5	208 7 2	232 12 0	5,063 11 1
Total, A.—Conservancy and Works	.....	1,91,190 3 1	28,827 5 1	37,742 3 8	16,964 7 0	5,951 4 3	882 1 3	25,847 0 6	1,31,021 4 2	4,38,425 12 0

FORM No. 58—*continued.*

Budget Heads.	Direction.	Northern Division of Kánara.	Southern Division of Kánara.	Central Division of Kánara.	Dhárwár Division.	Ratnágiri Division.	Bijápur Division.	Kolába Division.	Belgaum Division.	Total for 1890-91.
EXPENDITURE—*continued.*	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
B.—ESTABLISHMENTS.										
I.—Salaries—										
a. Conservators	14,752 5 10	.....	.....	.....	.....	.....	.....	.....	.....	14,752 5 10
b. Superior Officers	.....	22,769 9 7	7,177 4 2	3,000 0 0	9,841 6 4	1,200 0 0	7,002 0 1	10,688 11 5	7,351 14 6	69,030 14 1
c. Subordinate Forest and Depôt Establishments	.....	17,471 12 7	10,990 6 2	11,989 2 2	12,389 14 3	8,209 5 8	6,756 14 6	21,436 8 10	21,971 2 2	1,11,215 2 4
d. Office Establishments	6,019 13 9	3,774 14 6	2,177 12 10	3,167 4 6	1,756 13 11	573 7 9	864 0 0	2,283 14 5	2,259 14 5	22,878 0 1
e. Deputation and Special Allowances ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
II.—Travelling Allowances—										
a. Conservators	2,400 0 0	.....	.....	.....	.....	.....	.....	.....	.....	2,400 0 0
b. Superior Officers	.....	6,229 11 3	1,782 4 6	1,132 6 4	1,584 10 10	.....	1,626 1 7	2,529 10 8	1,953 13 11	16,838 11 1
c. Subordinate Forest and Depôt Establishments	.....	1,185 9 6	478 11 1	649 7 4	1,247 6 1	1,093 9 11	218 4 11	897 14 7	883 11 6	6,654 10 11
d. Office Establishments	1,974 0 10	1,335 12 3	616 13 8	769 13 0	585 8 3	180 12 0	335 10 0	681 3 0	667 3 8	7,146 12 8
III.—Contingencies—										
a. Stationery...	.....	143 15 3	287 15 4	343 6 1	153 9 0	170 2 10	109 13 0	304 11 10	300 9 9	1,814 3 1
b. Carriage of Tents and Records	557 12 0	435 7 4	170 4 0	535 3 0	173 4 11	125 3 6	69 10 0	249 6 9	129 3 0	2,445 6 6
c. Rents, Rates and Taxes	375 0 0	20 5 0	.....	240 0 0	45 8 0	297 0 0	66 0 0	261 8 9	387 1 7	1,602 7 4
d. Pay of Police Guards	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
e. Official Postage	232 0 6	262 10 0	344 7 0	374 2 6	363 12 0	265 9 0	102 2 6	406 5 0	353 10 0	2,704 10 6
f. Sundries	292 5 6	704 10 3	772 5 1	805 9 4	1,051 14 4	441 1 8	403 1 6	1,455 15 10	1,119 5 4	7,046 4 10
Payments to Officers of other Provinces...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total, B. Establishments ...	26,603 6 5	54,334 5 6	24,798 3 10	23,006 6 3	29,193 11 11	12,466 4 4	17,553 10 1	41,195 15 1	37,377 9 10	2,66,529 9 3
GRAND TOTAL OF EXPENDITURE ...	26,603 6 5	2,45,524 8 7	53,625 8 11	60,748 9 11	46,158 2 11	18,417 8 7	18,435 11 4	67,042 15 7	1,68,398 14 0	7,04,955 6 3

No. $\frac{F}{14,887}$.

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

G. H. R. HART,
Officiating Accountant General

Bombay, dated 8th August 1891.

FORM No. 59.

Forest Department, Bombay, Southern Circle.

Account Current for the year 1890-91.

Dr. *Cr.*

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To Opening Balance	.....	6 0 8	By I. Refunds and Drawbacks—		
,, VIII. Assessed Taxes—Income Tax—			Refunds—Divided Heads—		
Deductions by Government from Salaries and Pensions	.....	2,488 15 10	Forest...	.....	1,938 9 3
,, IX. Forest	.....	13 49,825 11 9	,, II. Forests	.....	7,04,953 6 3
,, XII. Interest—			,, Revenue Deposits—		
Interest on arrears of Revenue	.....	178 1 10	Forests	.....	30,540 4 5
,, XVI. Law and Justice—			,, Advances Recoverable—		
Fees, Fines and Forfeitures—			Forest Advances	3,44,767 9 1	
Magisterial Fines	.....	4 14 0	Objection Book Advances	1,371 0 0	
,, XXIII. Stationery and Printing—			Tentage Advances	400 0 0	
Stationery Receipts—					3,46,538 9 1
Sale proceeds of stationery boxes	2 0 0		,, Cheques and Bills—		
Other Press Receipts—			Departmental Cheques—		
Government Central Press	0 14 6		Forest Cheques cancelled	.....	10,542 10 2
		2 14 6	,, Forest Remittances—		
,, Revenue Deposits—			Remittances to Treasuries	11,03,063 13 0	
Forests	.....	30,121 3 0	Inter-Divisional Transfers	51,598 10 10	
,, Advances Recoverable—			Inter-Departmental Transfers	334 5 6	
Forest Advances	3,54,770 14 2				11,54,996 13 4
Objection Book Advances	2,177 3 11		,, Cash Recoveries	.....	5,787 7 4
Tentage Advances	40 0 0		,, Account between Bombay and Military, Bombay—		
		3,56,988 2 1	IV. Items adjustable by Military	5,195 10 1	
,, Cheques and Bills (Departmental Cheques)—			,, Marine—		
Forest cheques drawn	.....	6,92,837 11 6	IV. Miscellaneous	25,475 0 0	
,, Forest Remittances—					30,670 10 1
Remittances to Treasuries	2,616 10 3		,, Account between Bombay and Public Works Department—		
Inter-divisional Transfers	90,049 2 6		Bombay (Ordinary Branches)—		
Inter-departmental Transfers	1,535 11 6		IV. Items adjustable by Public Works Department—		
		94,201 8 3	Inter-departmental Charges	.....	2,108 3 9
,, Cash Recoveries	.....	5,787 7 4	,, Account between Bombay and Public Works Department, (Railway Branches)—		
,, Bombay Uncovenanted Service Family Pension Fund	.....	184 11 0	Southern Maratha Railway—		
,, Account between India and Bombay—			IV. Items adjustable by Public Works Department... ...	.....	2,45,855 10 2
III. Items adjustable by India—					
Bengal Uncovenanted Service Family Pension Fund ...	.....	70 14 0			
,, Account between Bombay and Public Works Department, Bombay (Ordinary Branches)—					
IV. Items adjustable by Public Works Department—					
Payments into Treasuries on account of Public Works Department by Civil Officers	.....	1,086 0 1			
,, Account between Bombay and Central Provinces—					
III. Items adjustable by Central Provinces	.....	150 0 0			
			Closing Balance	.....	
Grand Total ...	.....	25,33,934 3 10	Grand Total ...	.....	25,33,934 3 10

No. $\frac{P}{14880}$

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

Bombay, Accountant General's Office,
Dated 8th August 1891.

G. H. R. HART,
Officiating Accountant General.

FORM No. 60.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Revenue received and Outstandings on account of Revenue during 1890-91.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Northern Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	1,46,837 4 4	2,87,519 6 5	4,34,356 10 9	3,28,734 7 0	1,05,622 3 9	
	b. Firewood and Charcoal	.....	30,513 0 1	30,513 0 1	30,513 0 1	.....	
	c. Bamboos	.....	0 13 6	0 13 6	0 13 6	.....	
	d. Sandalwood	.....	3,191 13 5	3,191 13 5	3,191 13 5	.....	
	e. Grass and other minor produce ...	.....	20,290 11 11	20,290 11 11	19,437 14 11	852 13 0	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	23,664 5 0	23,664 5 0	21,228 9 8	2,435 11 4	
	b. Firewood and Charcoal	237 12 0	38,710 2 9	38,947 14 9	25,863 13 2	13,084 1 7	
	c. Bamboos	.....	29,971 2 10	29,971 2 10	29,971 2 10	.....	
	d. Grazing and Fodder grass	.....	6,297 3 9	6,297 3 9	6,297 3 9	.....	
	e. Other minor produce	71 12 0	4,568 3 3	4,639 15 3	4,639 15 3	.....	
	III.—Confiscated, Drift and Waif wood ...	10 0 0	320 8 10	330 8 10	324 12 10	5 12 0	
	Total, Northern Division of Kánara ...	1,47,156 12 4	4,45,047 7 9	5,92,204 4 1	4,70,203 10 5	1,22,000 9 8	
Central Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	53,832 15 4	1,01,062 0 10	1,54,895 0 2	1,08,962 3 4	45,932 12 10	
	b. Firewood and Charcoal	.....	443 2 0	443 2 0	400 13 0	42 5 0	
	d. Sandalwood	38 4 0	3,057 12 1	3,096 0 1	3,057 12 1	38 4 0	
	e. Grass and other minor produce ...	50 7 7	4,393 3 9	4,443 11 4	4,412 3 3	31 8 1	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	273 8 3	15,288 1 6	15,561 9 9	14,136 8 4	1,425 1 5	
	b. Firewood and Charcoal	.....	30,532 7 10	30,532 7 10	18,360 8 0	12,171 15 10	
	c. Bamboos	.....	12,447 14 8	12,447 14 8	12,447 14 8	.....	
	d. Grazing and Fodder grass	.....	6,993 12 10	6,993 12 10	6,993 12 10	.....	
	e. Other minor produce	226 10 3	4,329 14 2	4,556 8 5	4,160 13 5	395 11 0	
	III.—Confiscated, Drift and Waif wood ...	.....	279 6 1	279 6 1	279 6 1	.....	
	Total, Central Division of Kánara ...	54,421 13 5	1,78,827 11 9	2,33,249 9 2	1,73,211 15 0	60,037 10 2	

Southern Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	15,217 13 9	18,545 0 7	*33,762 14 4	24,133 1 8	7,578 9 0	*Of this sum Rs. 1,332 were included in 1889-90, and Rs. 719-3-8 were struck off from the accounts.
	b. Firewood and Charcoal	.....	578 13 6	578 13 6	578 13 6	.....	
	d. Sandalwood	.....	7,935 8 5	7,935 8 5	7,935 8 5	.....	
	e. Grass and other minor produce ...	.....	27,314 14 5	27,314 14 5	27,314 14 5	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	1,132 11 3	18,425 3 9	19,557 15 0	18,829 4 9	728 10 3	
	b. Firewood and Charcoal	.....	2,378 9 9	2,378 9 9	2,378 9 9	.....	
	c. Bamboos	10 0 0	833 2 10	843 2 10	843 2 10	.....	
	d. Grazing and Fodder grass	.....	9,863 14 6	9,863 14 6	9,863 14 6	.....	
	e. Other minor produce	.....	8,481 2 11	8,481 2 11	8,479 7 11	1 11 0	
	III.—Confiscated, Drift and Waif wood ...	.....	496 8 8	496 8 8	496 8 8	.....	
	Total, Southern Division of Kánara ...	16,360 9 0	94,852 15 4	*1,11,213 8 4	1,00,853 6 5	8,308 14 3	
Belgaum Division.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	3,699 3 7	23,815 4 10	27,514 8 5	23,768 7 5	3,746 1 0	
	b. Firewood and Charcoal	.....	2,26,623 14 6	2,26,628 14 6	2,26,628 14 6	.....	
	d. Sandalwood	.....	77 0 1	77 0 1	77 0 1	.....	
	e. Grass and other minor produce ...	.....	83,615 7 5	83,615 7 5	83,615 7 5	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	5,060 13 3	5,060 13 3	5,060 13 3	.....	
	b. Firewood and Charcoal	.....	5,631 11 6	5,631 11 6	5,631 11 6	.....	
	c. Bamboos	.....	5,341 10 2	5,341 10 2	5,341 10 2	.....	
	d. Grazing and Fodder grass	.....	24,306 7 2	24,306 7 2	24,306 7 2	.....	
	e. Other minor produce	.....	7,145 14 0	7,145 14 0	7,145 14 0	.....	
	III.—Confiscated, Drift and Waif wood ...	.....	66 10 7	66 10 7	66 10 7	.....	
	Total, Belgaum Division ...	3,699 3 7	3,81,689 13 6	3,85,389 1 1	3,81,643 0 1	3,746 1 0	
Dhárwár Division.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	1,467 0 0	33,018 12 8	34,485 12 8	33,167 12 8	1,318 0 0	
	b. Firewood and Charcoal	.....	11,659 4 0	11,659 4 0	11,659 4 0	.....	
	d. Sandalwood	.....	1,873 1 4	1,873 1 4	1,856 0 4	17 1 0	
	e Grass and other minor produce ...	.....	89 12 0	89 12 0	89 12 0	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	3 12 0	878 5 0	882 1 0	878 5 0	3 12 0	
	b. Firewood and Charcoal	.....	666 9 2	666 9 2	666 9 2	.....	
	c. Bamboos	.....	3,911 4 1	3,911 4 1	3,911 4 1	.....	
	d. Grazing and Fodder grass	.....	16,549 14 0	16,549 14 0	16,549 14 0	.....	
	e. Other minor produce	.....	1,351 4 9	1,351 4 9	1,351 4 9	.....	
	III.—Confiscated, Drift and Waif wood ...	.....	38 3 0	38 3 0	38 3 0	.....	
	Total, Dhárwár Division ...	1,470 12 0	70,036 6 0	71,507 2 0	70,168 5 0	1,338 13 0	

FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Bijápur Division.	*II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—*						
	a. Timber	.....	818 14 0	818 14 0	818 14 0	.....	
	b. Firewood and Charcoal	.....	10,360 11 9	10,360 11 9	10,360 11 9	.....	
	d. Grazing and Fodder grass	.....	6,945 4 0	6,945 4 0	6,945 4 0	.....	
	e. Other minor produce	.....	6,055 9 10	6,055 9 10	6,055 9 10	.....	
	III.—Confiscated, Drift and Waif wood ...	.....	63 14 9	63 14 9	63 14 9	.....	
	Total, Bijápur Division ...	.....	24,244 6 4	24,244 6 4	24,244 6 4	.....	
Kolába Division.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	.....	9,230 1 6	9,230 1 6	9,230 1 6	.....	
	b. Firewood and Charcoal	.....	639 15 0	639 15 0	639 15 0	.....	
	II—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	5440 8 0	70,881 14 0	76,322 6 0	73,570 0 2	2,752 5 10	
	b. Firewood and Charcoal	,875 0 0	23,382 6 0	24,257 6 0	24,257 6 0	.....	
	c. Bamboos	.....	5 8 0	5 8 0	5 8 0	.....	
	d. Grazing and Fodder grass	.....	1,575 4 0	1,575 4 0	1,575 4 0	.....	
	e. Other minor produce	.....	1,046 13 6	1,046 13 6	1,046 13 6	.....	
	III.—Confiscated, Drift and Waif wood ...	.....	616 2 1	616 2 1	616 2 1	.....	
	Total, Kolába Division ...	6,315 8 0	1,07,378 0 1	1,13,693 8 1	1,10,941 2 3	2,752 5 10	
Ratnágiri Division.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	.....	2,749 6 5	2,749 6 5	2,749 6 5	.....	
	b. Firewood and Charcoal	.....	8 4 0	8 4 0	8 4 0	.....	
	c. Grass and other minor produce ...	.....	20 5 1	20 5 1	20 5 1	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	7,613 6 9	7,613 6 9	7,613 6 9	.....	
	b. Firewood and Charcoal	.....	482 3 8	482 3 8	482 3 8	.....	
	c. Bamboos	.....	5 4 0	5 4 0	5 4 0	.....	
	d. Grazing and Fodder grass	.....	277 10 9	277 10 9	277 10 9	.....	
	e. Other minor produce	.....	36 14 0	36 14 0	36 14 0	.....	
	III.—Confiscated, Drift and Waif wood ...	.....	117 5 6	117 5 6	117 5 6	.....	
	Total, Ratnágiri Division ...	.....	11,310 12 2	11,310 12 2	11,310 12 2	.....	

Total of the Circle.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	2,21,054 5 0	4,75,940 1 3	*6,96,994 6 3	5,30,745 8 0	1,64,197 10 7	**Vide* remark above against Southern Division of Kánara for the difference of Rs. 2,051-3-8.
	b. Firewood and Charcoal	.....	2,70,471 5 1	2,70,471 5 1	2,70,429 0 1	42 5 0	
	c. Bamboos	.....	0 13 6	0 13 6	0 13 6	.....	
	d. Sandalwood	38 4 0	16,135 3 4	16,173 7 4	16,118 2 4	55 5 0	
	e. Grass and other minor produce ..	50 7 7	1,35,724 6 7	1,35,774 14 2	1,34,890 9 1	884 5 1	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	6,850 7 6	1,42,630 15 3	1,49,481 6 9	1,42,135 13 11	7,345 8 10	
	b. Firewood and Charcoal	1,112 12 0	1,12,144 14 5	1,13,257 10 5	88,001 9 0	25,256 1 5	
	c. Bamboos	10 0 0	52,515 14 7	52,525 14 7	52,525 14 7	.....	
	d. Grazing and Fodder grass	.....	72,809 7 0	72,809 7 0	72,809 7 0	.....	
	e. Other minor produce	298 6 3	33,015 12 5	33,314 2 8	32,916 12 8	397 6 0	
	III.—Confiscated, Drift and Waif wood ...	10 0 0	1,998 11 6	2,008 11 6	2,002 15 6	5 12 0	
	GRAND TOTAL ...	2,29,424 10 4	13,13,387 8 11	*15,42,812 3 3	13,42,576 9 8	1,98,184 5 11	

Note.—The revenue under budget heads IV and V is Rs. 10-9-8 and Rs. 7,238-8-5 respectively. This has not been shown in this statement in detail as there are no outstandings against those heads. The total revenue realized during the year is Rs. 13,49,825-11-9 (*vide* Form No. 58).

Dated Belgaum, the 16th October 1891.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 61.

Forest Department, Bombay, Southern Circle.

Outstandings and Liabilities on account of Contractors and Disbursers for 1890-91.

Names of Divisions.	Department Debtor.			Department Creditor.			Balance due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstanding).	By Department (Liabilities).	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Contractors.									
Belgaum	.....	39,580 14 5	39,580 14 5	.....	39,681 0 7	39,681 0 7	100 2 2	.....	
Bijápur	.....	.....	.....	.....	.....	.....	.....	.....	
Dhárwár...	.....	2,550 0 0	2,550 0 0	.....	2,550 0 0	2,550 0 0	.....	.....	
Northern Division of Kánara ...	.....	49,789 5 0	49,789 5 0	13,679 5 0	36,110 0 0	49,789 5 0	.....	.....	
Central Division of do. ...	.....	4,917 15 8	4,917 15 8	4,716 14 6	9,148 0 0	13,864 14 6	8,946 14 10	.....	
Southern Division of do. ...	.....	.....	.....	.....	.....	.....	.....	.....	
Kolába	.....	.....	.....	.....	.....	.....	.....	.....	
Ratnágiri	.....	.....	.....	.....	.....	.....	.....	.....	
Total, Contractors ...	.....	96,838 3 1	96,838 3 1	18,396 3 6	87,489 0 7	1,05,885 4 1	9,047 1 0	.....	
Disbursers.									
Belgaum	.....	57,926 1 2	57,926 1 2	975 5 6	57,922 9 2	58,897 14 8	971 13 6	.....	
Bijápur	0 8 0	7,430 0 0	7,430 8 0	.....	7,430 0 0	7,430 0 0	.....	0 8 0	
Dhárwár...	.....	19,907 12 6	19,907 12 6	11 12 6	19,896 0 0	19,907 12 6	.....	.....	
Northern Division of Kánara ...	.....	62,450 13 11	62,450 13 11	0 5 10	62,450 8 1	62,450 13 11	.....	.....	
Central Division of do. ...	.....	27,701 4 1	27,701 4 1	1,079 10 1	28,039 7 7	29,119 1 8	1,417 13 7	.....	
Southern Division of do. ...	.....	42,856 14 7	42,856 14 7	3,612 0 7	41,566 3 1	45,178 3 8	2,321 5 1	.....	
Kolába	.....	28,913 4 3	28,913 4 3	109 15 3	29,174 10 1	29,284 9 4	371 5 1	.....	
Ratnágiri	.....	10,746 8 7	10,746 8 7	16 0 0	10,799 2 6	10,815 2 6	68 9 11	.....	
Total, Disbursers ...	0 8 0	2,57,932 11 1	2,57,933 3 1	5,805 1 9	2,57,278 8 6	2,63,083 10 3	5,150 15 2	0 8 0	
Grand Total ...	0 8 0	3,54,770 14 2	3,54,771 6 2	24,201 5 3	3,44,767 9 1	3,68,968 14 4	14,198 0 2	0 8 0	

No. F. 14888. Forest Department.

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

Bombay, Accountant General's Office, 8th August 1891.

G. H. R. HART,
Officiating Accountant General.

FORM No. 62.

Forest Department, Bombay, Southern Circle.

Financial Results of the year 1890-91.

Division.	Timber and other produce removed from the Forests by Government agency.		Other Revenue.		Formation, Protection and Improvement of Forests.	Total.	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direction	...	...	...	26,603	...	...	26,603
Northern Division of Kánara...	3,82,202	1,70,362	88,430	6,516	68,646	4,70,632	2,45,524
Central Division of do. ...	1,17,112	39,247	56,885	6,878	14,624	1,73,997	60,749
Southern Division of do. ...	60,127	32,279	40,905	13,610	7,737	1,01.032	53,626
Belgaum	3,34,090	1,43,041	49,692	11,506	13,852	3,83,782	1,68,399
Dhárwár	46,773	29,487	24,198	7,682	8,989	70,971	46,158
Bijápur	...	...	24,656	4,388	14,048	24,656	18,436
Kolába	9,870	25,032	1,03,340	12,785	29,226	1,13,210	67,043
Ratnágiri	2,895	3,775	8,651	8,165	6,477	11,546	18,417
Total ...	9,53,069	4,43,223	3,96,757	98,133	1,63,599	13,49,826	7,04,955

Dated Belgaum, the 16th October 1891.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

A.

Statement showing the number of cases in which fines amounting to one rupee, two rupees and so on up to the maximum, were respectively inflicted during 1890-91.

Divisions.	Number of Fines inflicted.																																				Total.	
	Rupee 1 and under.	Rupees 2 and under.	Rupees 3 and under.	Rupees 4 and under.	Rupees 5 and under.	Rupees 6 and under.	Rupees 7 and under.	Rupees 8 and under.	Rupees 9 and under.	Rupees 10 and under.	Rupees 11 and under.	Rupees 12 and under.	Rupees 13 and under.	Rupees 14 and under.	Rupees 15 and under.	Rupees 16 and under.	Rupees 17 and under.	Rupees 18 and under.	Rupees 19 and under.	Rupees 20 and under.	Rupees 21 and under.	Rupees 22 and under.	Between Rs. 24 and 25.	Rupees 26 and under.	Rupees 27 and under.	Rupees 28 and under.	Rupees 29 and under.	Between Rs. 30 and 31.	Between Rs. 36 and 37.	Between Rs. 38 and 39.	Rupees 40 and under.	Between Rs. 42 and 43.	Rupees 44 and under.	Rupees 45 and under.	Rupees 60.	Rupees 72.	Rupees 200.	Number.	Amount.
																																						Rs.
Northern Division of Kánara ...	5	4	1	2	1	3	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	1	...	21	139
Central Division of Kánara ...	25	12	4	3	1	1	...	1	...	1	...	1	...	...	2	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	53	167
Southern Division of Kánara ...	37	20	9	1	10	1	1	2	1	6	1	...	...	...	...	1	...	1	...	1	...	...	1	...	...	...	1	...	...	1	...	1	1	...	...	...	1	98	767
Belgaum Division	287	30	29	6	4	1	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	361	248
Dhárwár Division	31	...	9	3	1	1	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	52	138
Bijápur Division	26	17	12	4	7	1	1	1	1	1	...	...	1	...	...	1	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	76	247
Kolába Division	119	48	23	16	8	6	6	3	5	4	...	1	2	2	3	1	...	1	3	1	2	...	...	1	...	...	1	...	1	1	1	...	1	1	...	...	...	206	1,033
Ratnágiri Division...	48	25	12	10	5	9	1	3	2	...	1	...	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...	...	...	1	...	...	...	1	...	...	...	121	439
Total ...	578	156	104	45	37	23	11	11	9	19	2	2	3	3	6	4	1	3	4	2	2	1	5	1	1	...	2	1	1	3	1	1	2	1	1	1	1	1,048	3,209

Out of the fine of Rs. 3,209 shown, above as having been inflicted, Rs. 2,752 were recovered during the year.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Dated Belgaum, the 16th October 1891.

No. 4813 of 1891.

REVENUE DEPARTMENT.

Camp Bijápur, 8th December 1891.

Submitted to Government with the following remarks.

Changes in forest area.

2. Compared with the figures of the previous year, the aggregate forest area of the year under report shows a diminution of 20 square miles and 2 acres. The whole of the decrease was under the head of "Protected Forest", the reserved area having increased by 69 square miles.

Settlement operations.

3. Settlement operations were in progress in Belgaum, Dhárwár and Kánara. It is only in the last-named district that any large amount of work still remains to be done. If left to a single demaraction officer, it will take, as previously reported to Government, 7 years more to complete it. Government have already called for proposals for the employment of an additional demarcation officer, and the report of the Conservator of Forests on the subject is still awaited.

Cost of survey.

4. As stated by the Conservator of Forests, the cost per square mile for 8" and 4" scale maps was Rs. 83-8-4 and Rs. 71-7-3 respectively. As Government in their Resolution No. 6550, dated the 23rd September 1891, have decided to complete the forest survey of Kánara on the 4-inch scale, no further comment seems called for.

Working plans.

5. Of the two officers originally engaged in the preparation of the working plans in Kánara, Mr. Oliver was deputed to Kolába for *dálhi* settlement. The progress made, however, was satisfactory, working plans having been formed for an area of 44,361 acres at a cost of Rs. 34,097.

Prosecutions.

6. There were 146 convictions out of 197 prosecutions against 101 out of 138 last year; the increase occurs chiefly in Belgaum, Kolába and Ratnágiri. The largest percentage of failures was in the Southern Division of Kánara and the smallest in the Central Division of the same district. This difference in the results has not been accounted for.

7. As regards the question touched on in paragraph 35 of Mr. MacGregor's report, the undersigned has only to refer Government to the correspondence ending with this office No. 3804 of 30th September last, and to point out that the remedy lies in expediting the settlement of the disputed rights by the appointment of an additional demarcation officer.

Cases compounded under Section 67.

8. The number of cases compromised under Section 67 of the Indian Forest Act rose from 674 last year to 1,052 during the year under report. Of the total increase of 378 cases, nearly 69 per cent. was in Belgaum; but it was only nominal, being due to the fact that in former years, when a number of individuals were charged at one and the same time with similar offences, they were all grouped under one case, whereas each individual offence has this year been treated separately.

9. Of the 1,048 cases in which fines were inflicted, nearly ⅓ were from Belgaum and ⅓ from Kolába.

10. In slightly more* than half the total† number of cases, fines to the extent of one rupee and under were inflicted, in 156 cases the fine inflicted was Rs. 2 and under, and in 104 it was Rs. 3 and under.

* 578.
† 1,048.

Cases in which the fines ranged from Rs. 11 to Rs. 20 were 30,
Do. do. „ 21 to „ 30 do. 12,
Do. do. „ 31 to „ 40 do. 6,
Do. do. „ 41 to „ 50 do. 9,
Do. do. „ 50 to „ 60 was 1,
Do. do. „ 61 to „ 75 do. 1,

and in one case only, which occurred in the Southern Division of Kánara, a fine of Rs. 300 was levied.

11. The Conservator of Forests reports that no appeal was made to him in any of the above cases.

12. In paragraph 11 of the review of last year, Government directed the Commissioners to make a close investigation into the method and proceedings of Forest officers empowered under Section 67. A report on that subject has already been submitted under this office No. 2423 of 25th June 1891, to which a reference is solicited.

Number of cattle impounded.

13. The total number of animals impounded was 10,306, of which nearly $\frac{1}{3}$rd were impounded for grazing without passes in open forest. The corresponding figures for the last year have not been given.

Fire protection.

14. The area in which protection against fire was attempted was nearly the same as last year, *viz.*, 1,059 square miles against 1,016; but the proportion of failures was 0·8 against 12·3 in 1889-90. The cost of protection was, however, slightly greater than in the previous year.

Grazing.

15. A reference to Form 60 accompanying the Conservator's report shows that receipts from 'Grazing and fodder grass' slightly increased from Rs. 71,364-7-8 to Rs. 72,809-7-0. The increase in the area closed to grazing is shown below:—

Area closed to grazing.

1888-89.		1889-90.		1890-91.	
Sqr. mls.	acres.	Sqr. mls.	acres.	Sqr. mls.	acres.
84	259	310	529	581	518

There seems to have been a steady increase for some years past. The Conservator of Forests, however, states that the area now under closure is only about half that which it will be necessary to have closed for purposes of reproduction.

16. The new grazing rules were not in force during the year under report.

Natural reproduction.

17. Natural reproduction by coppice is reported to be generally successful. That by self-sown seed was not invariably so; in the Mundgod Range in the Central Division of Kánara and in Bijápur and Kolába-Ratnágiri it failed owing to the rocky nature of the soil and other unfavourable conditions.

Artificial regeneration.

18. The measures taken for artificial regeneration were attended with varying results—*see* paragraphs 67 to 99.

Communications and buildings.

19. The amounts spent under this head were not large and the Conservator finds nothing to complain of in the way of defective road communications. His only difficulty is the want of means of transport to carry timber and other forest produce to large markets. Government have already directed the preparation of plans and estimates for a bullock tramway between Haliyál and Shiroli.

Departmental fellings.

20. The receipts from departmental fellings during the year under report amounted to—

Rs.	a.	p.	
5,30,745	8	0	on account of timber,
2,70,429	0	1	do. firewood and charcoal,
0	13	6	do. bamboos,
16,118	2	4	do. sandalwood, and
1,34,890	9	1	do. grass and other minor produce;
9,52,184	1	0	

against—

Rs.	a.	p.		
5,63,651	14	0	on account of	timber,
2,14,469	14	4	do.	firewood and charcoal,
31	7	0	do.	bamboos,
16,781	5	11	do.	sandalwood, and
1,15,894	8	10	do.	grass and other minor produce,
9,10,829	2	1	in 1889-90.	

Free grants of wood.

21. As desired by Government in their Resolution No. 1899, dated the 13th March last, paragraph 20, the Conservator has this year furnished information (*see* paragraph 145 of his report) as to the value and description of forest produce granted free to applicants. The result shows a considerable falling off as compared with the previous year.

Financial position.

22. The receipts, expenditure and net revenue during 1890-91, as compared with the preceding year, are shown in the following statement :—

Circle.	Receipts.		Expenditure.		Net Revenue.	
	1889-90.	1890-91.	1889-90.	1890-91.	1889-90.	1890-91.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Southern	13,25,676	13,49,826	6,50,343	7,04,955	6,75,333	6,44,871

23. The falling off of the net revenue by Rs. 30,462 is ascribed by the Conservator of Forests to "an unaccountable and probably transitory falling off in the demand for timber" and to larger costs incurred on establishments, &c. In paragraph 157 the Conservator of Forests has stated that there was "general stagnation in the timber market."

Bet lands.

24. The question regarding the allotment of bet lands has been submitted for the consideration of Government in this office No. 2806 of 21st July 1891, which fully deals with the matter touched in paragraphs 151 to 156 of Mr. MacGregor's report.

Services of officers.

25. It is gratifying to learn that, with one exception, all the officers employed under Mr. MacGregor are found to have discharged their duties satisfactorily and efficiently.

J. F. FLEET,

Acting Commissioner, S. D.

SIND CIRCLE.

No. 1111 of 1891-92.

From

The CONSERVATOR of FORESTS,
Sind Circle.

To

The SECRETARY to GOVERNMENT,
Revenue Department.

Conservator's Office,
Hyderabad, 11th October 1891.

Sir,

I have the honour to submit herewith the annual Administration Report of the Sind Forest Circle for the year 1891-92, with its subsidiary statements.

I have the honour to be,

Sir,

Your most obedient Servant,

W. S. HEXTON,
Conservator of Forests, Sind Circle.

[Submitted through the Commissioner in Sind.]

ANNUAL ADMINISTRATION REPORT OF THE SIND FOREST CIRCLE FOR THE YEAR 1890-91.

INTRODUCTION.

All the forests along the bank of the Indus were well flooded in consequence of the river having risen above the average height during the inundation season.

2. The inland forests situated in the Shikárpur, Upper Sind Frontier, and Karáchi districts are rapidly becoming devoid of all vegetation for the want of irrigation, and except for the large tracts of salt or "kalar", the white efflorescence of which forms a marked feature in most of them, it is almost impossible to distinguish them from the surrounding high lying fallow "kharif" lands.

3. In comparison with the total area forest fires have been very trifling, and chiefly occurred in the Sukkur Division.

4. The financial results of the year under report have been much more satisfactory than those of previous years.

5. The demand for timber and firewood, especially the latter, is steadily increasing.

CHAPTER I.

Area and Boundaries.

6. The area of the forests in this circle as it stood on the 31st March 1891 with the additions and deductions made during the year are given in the following statement:—

Name of Division	Area as it stood on 31st March 1890.		Area added during the year 1890-91.		Area excluded during the year 1890-91.		Area as it stood on 31st March 1891.	
	Reserved	Protected	Reserved.	Protected.	Reserved	Protected	Reserved	Protected
	Sq m a.	Sq m a	Sq m a.		Sq m. a.		Sq m a	Sq m a
Sukkur ..	446 204	1 128		...	0 125		446 79	1 128
Naushahro	233 342						233 342	.
Hyderabad	159 581	...	0 13			...	159 594	
Jerruck ...	151 477	0 117					151 477	0 117
Total	991 324	1 245	0 13	.	0 125		991 212	1 245

7. In the Hyderabad Division 13 acres in Deh Richal, Táluka Hála, were declared Reserved Forest and notified as such under Section 19 of the Indian Forest Act.

8. 125 acres of land in the Sukkur Division were disforested and transferred to the Public Works Department on account of the Jhali embankment under the authority of Government Resolution No. 7049, dated the 1st October 1890.

9. 175 acres 29 gunthas of the Dickinson Forest, Sukkur Division, were temporarily handed over to the Officer Commanding the 6th Bombay Cavalry in extension of the area previously allotted to him for a mule run.

10. Statement of land selected for reservation and notified under Section 4 of the Indian Forest Act, the forest settlement of which has not as yet been completed:—

Name of Forest.	Táluka.	Area.		Year in which notified.
		Acres.	g.	
Khairwah	Jacobabad	56	30	1886
Gokalpur		64	30	
Tarai	Naushahro Abro ...	2,349	5	1887
Chango Rahuja...		1,749	35	
Choi		3,132	20	
Adamji		4,352	25	
Phohyari		473	4	
Masti Khán		225	0	
Adalpur...	Ghotki	1,074	1	1890
Katcho Khanote	Hála	2,880	0	1890
		15,757	30	

11. The Assistant Collectors have been appointed Forest Settlement Officers, but their legitimate duties occupied so much of their time that they were unable to complete this work within any reasonable period.

12. 2,880 acres of newly formed katcha lands adjoining the Khanote forest, táluka Hála, in the Hyderabad Division, were notified under Section 4 of the Indian Forest Act, *vide* Government Resolution No. 2735, dated the 21st April 1890; similarly in the Sukkur Division, 1,074 acres in Deh Malir were notified, *vide* Government Resolution No. 7748, dated the 6th November 1890.

13. The preliminary notifications of the lands selected in the Thar and Párkar District, and mentioned in para. 9 of last year's report, have not as yet been published in consequence of the correspondence that has taken place regarding them. The papers have only recently been returned to me, and they will shortly be ready for submission to Government. In conjunction with other questions, I have under consideration the protective establishment necessary for their proper management, and I contemplate proposing the formation of an entirely new division under a qualified European Divisional Forest Officer; because I find it will be feasible to prepare working plans for them as they are permanent, and unlike the river-side forests in this respect, and also taking into consideration the plentiful supply of water they receive, which to a certain extent is under control, the formation of artificial plantations on a large scale is rendered practicable into which might be introduced Casuarinas, Khair, Táli and other useful varieties of timber trees, also bamboo, the product of which will find a ready sale in the different markets of the treeless tracts through which the extension of the new railway will eventually pass. As the subsequent development and value of these forests will greatly depend on the way they are treated from the time when this department first acquires them, I earnestly entreat Government to favourably consider my requisition for a trained officer.

14. The areas lost and gained by the action of the river are given below:—

Name of Division	Area lost.	Area gained.
	Acres.	Acres.
Sukkur	7,098	6,204
Naushahro	11,196	3,360
Hyderabad	625	680
Jerruck	100	150
Total ...	19,019	10,394

These figures, however, cannot be depended on as it is absolutely impossible to form a correct estimate of the areas of all the low mud flats and sand banks in the process of formation fronting the forests.

15. The areas of the river-side forests when they were last surveyed in 1878 are shown in annual Form No. 49, but subsequently, owing to the eccentricities of the Indus, such important changes have taken place that in some instances entire forests have disappeared the areas of which were formerly entered in the forms but have now been excluded. Nevertheless the actual area of the forests still remains a mystery which can only be solved by a revision of the original survey. But, as the Superintendent of the Sind Revenue Survey estimated that this work would cost Rs. 50,000, I consider it is best postponed to a later date as the irrigation of the inland forests requires our first attention.

16. Rs. 3,016 were spent on saving the trees that were in danger of being carried away by erosion of the river, and the greater part of the material thus collected realized Rs. 6,156. The balance that remained in stock is valued at Rs. 183.

CHAPTER II.

Surveys, Working Plans and annual Plans of Operations.

17. The following forests were surveyed by the two surveyors sanctioned on the temporary establishment list, but much reliance, I find, cannot be placed on the result of their work as previously it had never been thoroughly checked, and during the last working season the Divisional Forest Officers were either too busy or too ignorant of surveying to systematically test it. However, these men are useful in rectifying boundaries, making maps, and calculating the areas of lands selected and set apart for reservation as forests :—

Division.	Name of forest.	Area surveyed.
		Acres.
Sukkur	Khiabindi	5,794
Naushahro	Keti Shâh belo	6,880
	Samtia	4,420
	Kamaldero	1,365
	Bhour	8,930
Hyderabad...	Unarpur	7,120
	Total ...	34,499

18. The subjoined statement shows the amount of progress which has been made up to date in the sub-division of the forests into compartments by paths 20 feet wide :—

Area cut up into Compartments up to March 1890.		Area cut during 1890-91.		Total area cut up into Compartments.		Area still remaining to be cut up.
Acres.	Length in miles of rides 20 feet wide.	Acres	Length in miles of rides 20 feet wide.	Acres.	Length in miles of rides 20 feet wide.	
			Sukkur.			Acres.
1,65,039	1,031	22,440	140	1,87,479	1,171	96,440
			Naushahro			
76,979	481	2,025	12	79,004	493	70,458
			Hyderabad.			
93,760	474	1,477	9	95,237	483	7,104
			Jerruck.			
77,122	429	9,750	49	86,872	478	10,222
4,12,900	2,415	35,692	210	4,48,592	2,625	1,84,224

19. The original cost of cutting and clearing these paths averages Rs. 18 a mile, and subsequently all necessary repairs, including the removal of grass and other vegetable growth, are performed by the forest guards with the assistance of the cattle-owners residing on the boundaries of the different forests, and these latter work most willingly, thus saving Government a considerable sum annually. Colonel McRae in introducing this into Sind has greatly benefited the forests, and the compartments will prove most useful to us when we begin to work on a systematic scale.

20. The boundary marks demarcating the forests with the paths connecting them were maintained in good order.

CHAPTER III.

Protection and Improvement.

Section 1.—Establishment.

21. Colonel McRae proceeded on furlough on the 10th April 1890, and the 12 months originally granted to him was extended to 18 months. During the interval between his departure and Mr. Hexton's arrival on the 22nd April 1890, Mr. Ryan held temporary charge and handed it over to Mr. Hexton, who continued to act as Conservator of Forests till the end of the year.

22. The following officers held charge of the several Divisions :—

Mr. G. M. Ryan .....Sukkur Division.
Mr. Shoukiram Pribhdas.....Hyderabad ,,
Mr. Tuljaram Nihalchand.....Naushahro ,,
Mr. Neribdas Jethmal .....Jerruck ,,

23. There are only three trained Range Forest Officers amongst the members of the protective establishment who have passed through the Forest course at the Poona College of Science, and I am expecting a fourth shortly. It is, however, my intention to gradually substitute these officers for the old untrained class of men that are already in the department as they retire from the service. But if advantage is to be taken of the knowledge acquired by them, it is absolutely necessary they should be supervised by qualified European Divisional Forest Officers, and this forms one amongst other most important reasons why I do repeatedly appeal to Government for the services of officers of the above class.

Section 2.—General Protection and Breaches of Forest Laws.

24. The number of cases tried by Magistrates during the past two years with their results are given in the following statement :—

Name of Division.	Number of cases tried before Magistrates.		Number of convictions.	
	1889-90.	1890-91.	1889-90.	1890-91.
Sukkur	65	25	45	14
Naushahro	16	15	11	6
Hyderabad	14	14	8	11
Jerruck	3	5	3	5
Total ...	98	59	67	36

25. There were 59 cases in 1890-91 against 98 in 1889-90 tried by Magistrates, in 36 of which convictions were obtained in 1890-91 against 67 in 1889-90. The small number of prosecutions cannot fail to attract attention, but I attribute it to the fact that only serious offences were submitted for trial and the minor ones compounded under Section 67 of the Indian Forest Act.

26. Forest offences as a rule are trivial and the acceptance of a small sum as compensation is sufficient to deter the inhabitants from doing wholesale damage to the forests. An ignorant rustic who has already paid grazing fees for his cattle can hardly be persuaded that he is committing an offence when he proceeds to strip a few branches of their leaves, and the actual injury he does is in itself trifling; but, however, supposing an entire neighbourhood commenced acting in a similar manner the harm would be serious, therefore the compensation should be low yet just enough to act as a restraint, and a Divisional Forest Officer should be able to tell from the appearance of his forests whether the people are thus kept in check.

27. Múso Búghio's case referred to in para. 26 of last year's report ended in his acquittal on the ground that he was not present on the date that the boundary was altered. An application for an appeal was made at the suggestion of the Public Prosecutor and forwarded to the Legal Remembrancer, who recommended the District Magistrate to examine the proceedings and submit them to the Sadar Court for revision. This has been done and the result is not yet known.

28. The following statement gives the number of cases compounded under Section 67 of the Indian Forest Act during the last two years for comparison:—

Name of Division.	Illicit grazing.		Theft		Other offences.		Compensation.	
	1889-90	1890-91.	1889-90.	1890-91.	1889-90	1890-91	1889-90.	1890-91.
Sukkur	371	421	66	84	4	1	1,638	977
Naushahro	146	219	17	19	42	40	226	282
Hyderabad	97	353	114	208	...	..	590	922
Jerruck	429	300	29	6	.	12	614	479
Total ...	1,043	1,296	226	317	46	53	3,068	2,660

29. The total number of cases compounded in 1889-90 was 1,315 and during the year under report 1,666; the compensation taken on account of the former amounted to Rs. 3,068 and for the latter 2,660, the first averaging Rs. 2-5-4 per case and the second Re. 1-9-7 per case. This is exactly what I desire, and I shall endeavour to keep the compensation sums as low as possible so long as I find the forests, on being thoroughly inspected, present a general appearance of not having been injured.

30 The subjoined statement gives the number of cases compounded under Section 67 of the Indian Forest Act, in which the amounts accepted as compensation were one rupee and upwards:—

District	Name of Division	Fines inflicted.	
		No. of cases.	Amount.
Upper Sind Frontier ...	Sukkur	23	Up to Re. 1
		12	„ Rs. 2
		1	„ „ 3
		2	„ „ 4
	Total cases ..	38	

District.	Name of Division.	Fines inflicted.	
		No. of cases.	Amount.
Shikárpur	Sukkur—*continued.*	223	Up to Re. 1
		126	„ Rs. 2
		53	„ „ 3
		19	„ „ 4
		12	„ „ 5
		16	„ „ 6
		1	„ „ 7
		3	„ „ 8
		5	„ „ 9
		4	„ „ 10
		4	„ „ 12
		3	„ „ 15
		1	„ „ 17
		1	„ „ 29
	Naushahro	53	„ „ 1
		9	„ „ 2
		2	„ „ 3
		1	„ „ 5
		1	„ „ 7
		1	„ „ 10
	Total cases ...	538	
Hyderabad	Naushahro ...	133	„ „ 1
		27	„ „ 2
		14	„ „ 3
		3	„ „ 4
		2	„ „ 5
		1	„ „ 6
		2	„ „ 7
		1	„ „ 8
		1	„ „ 10
	Hyderabad	320	„ „ 1
		90	„ „ 2
		17	„ „ 3
		33	„ „ 4
		35	„ „ 5
		1	„ „ 6
		1	„ „ 7
		2	„ „ 8
		6	„ „ 10
		1	„ „ 12
	Jerruck	49	„ „ 1
		7	„ „ 2
		1	„ „ 3
		2	„ „ 5
	Total cases ..	749	
Karáchi	Naushahro	23	„ „ 1
		2	„ „ 2
		1	„ „ 3
		1	„ „ 5
	Hyderabad	32	„ „ 1
		2	„ „ 2
		5	„ „ 3
		5	„ „ 4
		1	„ „ 5
		1	„ „ 6
		3	„ „ 7
		1	„ „ 8
		5	„ „ 10

District.	Name of Division	Fines inflicted.	
		No. of cases.	Amount.
	Jerruck	123	Up to Re. 1
		78	„ „ 2
		27	„ „ 3
		12	„ „ 4
		9	„ „ 5
		5	„ „ 6
		3	„ „ 10
		1	„ „ 15
		1	„ „ 26
	Total cases .	341	
	Grand Total	1,666	

31. A separate statement (A) is attached to this report giving the number of animals impounded in open and closed forests as directed in para. 8 of Government Resolution No. 5589 of the 11th August 1891.

Section 3.—Fires.

32. The areas over which the forest fires extended during past two years, as well as the number of times they occurred, will be found in the following statement.—

Name of Division	Number of fires		Area burnt.	
	1889 90.	1890 91.	1889 90	1890 91.
			Acres.	Acres.
Sukkur	14	12	1,197	2,410
Naushahro	3	6	13	117
Hyderabad	7	2	397	104
Jerruck	8	2	96	40
Total . .	59	52	1,703	2,671

33. The area burnt during this year is larger than that of the previous, but as compared with the total area of the forests, is very insignificant, and therefore does not require any special legislation. In this respect Sind is unlike other parts of India.

Section 4.—Grazing.

34. The unusual heavy showers of rain that fell during each month of the last cold season produced fairly good pasture outside forest limits and most particularly in the hills, in consequence of which there is a slight decrease in the grazing fees collected in the year.

35. The number of cattle permitted to graze free in the forests is shown in the subjoined statement:—

Name of Division	Buffaloes.	Horned cattle.	Donkeys	Horses and Camels.
Sukkur	226	1,470	34	9
Naushahro	1,449	7,424	.....	142
Total ...	1,675	8,894	34	151

36. The grazing question is a very serious one as concerning the welfare of the forests, and the right of free grazing should not be lightly admitted by Forest Settlement Officers. I regret to say that in the Amrote forest in the Lárkhána Division of the Shikárpur District this right has been granted to the inhabitants of 29 villages, and up to March last no statement was prepared from which either the names of the villagers or the number of their cattle could be ascertained, and it is therefore perfectly impossible to make out how many additional families have come to reside in these villages during the three years that have elapsed since the reservation of the forest. When the Act was framed I cannot think it was ever contemplated that the right of free grazing would be bestowed on a community, as it most distinctly lays down the procedure for inquiries into individual claims only.

37. It is an indubitable fact, and one that has frequently come under my personal observation, that all cattle not only destroy seedlings by tramping them down, but they also eat them up with the grass, doing untold harm to the young growth, both coppice and seedling. The only means of aiding reproduction that suggests itself to me is the entire exclusion of all cattle and the protection that good strong fences will afford.

38. I intend to restrict my current year's cutting operations to $\frac{1}{12}$th of the reproductive area of the forests, and shall then endeavour to get the whole of the land that has been worked over properly enclosed by strong hedges to be made from the thorny branches of the bábul and kandi that are left behind by the wood-cutters after removing all material thick enough for the purposes of firewood.

Section 5.—Natural Reproduction.

39. Where there is a sufficiency of water, forests in Sind will reproduce themselves with little or no artificial aid, excepting protection from fire and injury done by cattle permitted to graze before the plants have attained the necessary height that will keep them from destruction, and all the closed blocks thus protected have shown most satisfactory results

40. These remarks are only applicable to the river-side forests, as those situated inland and unirrigated are rapidly dying out, the land presenting a most dismally bare appearance.

Section 6.—Artificial Reproduction.

41. Lands newly deposited by the river are self-sown, for as soon as the Indus recedes, the young tamarisk and poplar, mixed with different varieties of grass, immediately germinate and thickly cover the ground; therefore sowing seed is quite unnecessary in localities such as these.

42. In the old forest lands cattle distribute bábul and kandi seed to a great extent, and sufficiently so for reproductive purposes, so that wherever there is moisture all that is additionally required are good protective fences

Section 7.—Experiments.

43. The results of all previous experiments are as follows —

Khair (Acacia catechu) can be grown on the banks of the Fuleli, and I intend, therefore, to introduce it into all our best forests, and for this purpose have indented for 50 maunds of seed on the Conservator of Forests, Northern Circle.

44. Prosopis glandulosa reproduces itself from self-sown seed and suckers and it might be made to form part of the ordinary forest vegetation, but it appears to me to be of little value as it will not grow into timber.

45. Casuarina seems to have thrived well in the Malir Valley and might be made to cover a good part of the sandy soil there, which is at present unculti-

vated. I have written to Madras for 100 maunds of seed which has been promised me early next year and with which I intend to make experiments on a larger scale.

Section 8.—Communications and Buildings.

46. Repairs were carried out thoroughly to all the existing buildings. New quarters were built for the Náka Munshi of Sukkur and for the Range Forest Officer of Kandiáro, costing Rs. 130 and 250 respectively. No expenditure was incurred on roads.

CHAPTER IV.

Yield and Working.

Section 1.—Departmental Operations.

47. The details of the working of the departmental depôts are given in the subjoined statement:—

Name of Depôt.	Stock on hand.			Added during the year.			Disposed of during the year.			Balance on 31st March 1891.		
	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.
	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.
Shikárpur ...	294	2,807	189	799	8,231	...	1,093	11,038	189	...	...	...
Sukkur	7,540	690	869	6,351	19,680	...	13,109	20,296	719	782	74	150
Rohri	540	7,137	...	436	2,634	...	906	9,762	...	70	9	...
Lárkhána ...	...	...	...	84	60	4,724	16	60	2,324	68	..	2,400
Sehwan	...	2,752	...	...	4,898	...	...	7,361	...	...	289	...
Keti Bandar ..	665	...	1,250	6,484	...	...	7,127	...	250	22	...	1,000
Kotri	344	...	13,879	...	...	1,44,556	344	...	1,44,937	...	...	13,498
Hyderabad ...	4,087	52,910	18,290	7,174	1,23,455	65,506	11,189	1,61,486	69,883	72	14,879	13,913
Total ...	13,470	66,296	34,477	21,328	1,58,958	2,14,786	33,784	2,10,003	2,18,302	1,014	15,251	30,961

48. The following statement shows the quantity of timber and firewood sold at each depôt:—

Name of Depôt.	Timber.		Posts and Rafters.		Fuel.	
	1889-90.	1890-91.	1889-91.	1890-91.	1889-90.	1890-91.
	C. ft.	C. ft.	Number.	Number.	Maunds.	Maunds.
Shikárpur	61	1,093	15,585	11,038	11	189
Sukkur	4,361	13,109	15,355	20,296	1,216	719
Rohri	232	906	7,571	9,762	...	...
Lárkhána	...	16	767	60	3,606	2,324
Sehwan	17	...	9,864	7,361	...	...
Tatta	221	...	...	...	...	...
Keti Bandar	9,325	7,127	...	...	625	250
Kotri	179	344	...	...	1,12,613	1,44,937
Hyderabad	12,123	11,189	1,15,176	1,61,486	51,780	69,883
Total ...	26,519	33,784	1,64,318	2,10,003	1,69,851	2,18,302

49. The sales in the depôts have as a whole increased, due to a better demand in certain localities and periodical auctions having been held in the Sukkur Division. In the Hyderabad Division the increase in the sales of firewood at Kotri and Hyderabad is due to the increase in the number of steam cotton gins and engines that are supplied, and a still further increase in this direction is expected.

50. The departmental depôts have to compete against chil and deodar imported from the Punjab and material cut from private forests and unoccupied Government waste survey numbers.

51. The following statement gives the quantity of the above-mentioned material brought into the towns of Hyderabad and Kotri:—

Name of Town.	Babul Logs.	Posts and Rafters of all kinds.	Firewood.	Charcoal.	Babul Bark.	Lac.	Estimated Value.
	No.	No.	Mds.	Mds.	Mds.	Mds.	Rs.
Hyderabad	8,050	5,208	1,13,252	2,293	16,851	312	19,000
Kotri	1,052	14,600	30,093	550	2,802	...	3,700
Total ...	9,102	19,808	1,43,345	2,843	19,653	312	22,700

52. In Shikárpur, Sukkur, Rohri, Lárkhána, Karáchi and other large towns the quantity of firewood taken from Government waste lands and sold there is very large indeed, and I doubt very much whether Government received the whole of the income due from that source.

53. The quantity of timber supplied to the State Railway and other departments and bodies is given in the following table:—

Name of Department.	Babul Logs.	Tali Logs.	Bahan Posts.	Poplar Bullies.	Bahan Rafters.	Babul Sleepers.
	No.	No.	No.	No.	No.	No.
North-Western Railway	...	...	...	330	...	...
Executive Engineer, Sukkur Defence Works	24	...	100	...	...	...
Judicial Department, Quetta ...	12	4	...	...	...	...
Hyderabad Municipality	...	...	...	...	1,000	...
Harbour Works, Karáchi... ...	...	...	...	...	...	1,300
Gun Carriage Factory Department	650	...	...	...	...	...
Total ...	686	4	100	330	1,000	1,300

54. The following quantity of timber cut by departmental agency was disposed of to private purchasers on the edge of the forests:—

Name of Division.	Timber.	Bahan Posts.	Bahan Rafters.	Poplar Bullies.	Jhau Rafters.	Kirir Rafters.
	C. ft.	No.	No.	No.	No.	No.
Sukkur	308	100	...	330	...	...
Naushahro...	563	...	80	...	2,780	100
Hyderabad	1,762	300	3,250	...	400	...
Jorruck	496	...	...	...	...	...
Total ...	3,129	400	3,330	330	3,180	100

55. The following statement shows the firewood supplied to the railway and other departments and large consumers during the year under report as compared with the previous one:—

To whom supplied.	Firewood.	
	1889-90.	1890-91.
	Maunds.	Maunds.
North-Western Railway	18,16,614	16,98,751
Commissioner's Steamer "Jhelum" ...	17,992	15,750
Indus Ferry Steamers	79,794	68,390
River Conservancy Department... ...	7,557	6,682
Public Works Department	644	1,059
Karáchi Harbour Works...	24,150	50,139
Commissariat Department	24,325	61,640
Hyderabad Water Works	37,000	54,000
Sukkur Municipality	5,810	6,965
Hyderabad Jail	2,888	3,297
Government Farm, Hyderabad	7,750	9,150
Total ...	20,24,524	19,75,823

56. A slight decrease will be observed which is chiefly due to the North-Western Railway having taken less wood.

Section 2.—Removal of Produce by Purchasers.

57. The value of timber and firewood removed from the forests other than that removed under the permit-pass system is given in the following statement :—

Name of Division.	Timber.		Firewood.	
	1889-90.	1890-91.	1889-90.	1890-91.
	Rs.	Rs.	Rs.	Rs.
Sukkur	3,447	5,939	1,050	828
Naushahro	977	701	1,358	86
Hyderabad	2,020	1,547	2,945	2,742
Jerruck	797	766	444	320
Total ...	7,241	8,953	5,797	3,976

58. The following statement shows the receipts at each of the ghâts or nákás during the year under report as compared with last year :—

Name of Division.	Name of Ghát.	Revenue realized.	
		1889-90.	1890-91.
		Rs.	Rs.
Sukkur	Rahuja	12,269	10,894
	Jhali		
	Rohri		
	Sadar	12,671	10,449
	Stewart...		
	Khura		
Naushahro...	Lárkhána	2,000	2,309
	Garhi Yasin	1,201	1,032
Hyderabad	New Fuleli	1,217	1,134
	Old Fuleli		
	Hajipur...		
	Total ...	29,358	25,818

59. The decrease is due to the following causes:—

1. Scarcity of wood in the vicinity of Shikárpur;
2. Fees on wood brought from revenue jungles formerly collected by the Forest Department, now taken by the Revenue Department;
3. Men formerly engaged in bringing wood to the large towns found employment under contractors cutting fuel for the Railway.

Section 3.— Free Grants.

60. Free grants of the value of Rs. 1,773-8-1 were made to deserving people to enable them to construct houses, mosques and temples, and in one instance, with the sanction of the Commissioner in Sind, Rs 1,051 worth of timber was given to the inhabitants of Bano, in order to assist them to rebuild their town which was entirely washed away by the river.

Section 4.—Summary of Produce.

61. The following is a statement of the timber extracted from the forests by Government agency :—

Name of Division.	Timber		Posts.		Rafters	
	1889 90	1890 91	1889-90.	1890 91.	1889-90	1890 91
	C ft	C ft.	No	No	No.	No
Sukkur	4,881	15,423	13,753	7,314	26,613	34,213
Naushahro	2,353	677	552	236	8,121	5,000
Hyderabad	17,251	17,623	2,232	2,975	1,11,920	1,10,961
Jerruck	10,935	11,599	300	2,000	1,020	19,500
Total ...	35,420	45,322	16,837	12,525	1,47,674	1,99,673

62. The quantity of timber removed by purchasers from the forests is given below —

Name of Division	Timber		Posts		Rafters	
	1889-90	1890 91	1889 90.	1890 91	1889 90.	1890 91
	C ft.	C ft	No	No	No	No.
Sukkur	4,291	5,141	393	63	43,905	55,298
Naushahro ...	4,624	1,242	643	191	15,916	11,219
Hyderabad	4,372	4,139	841	718	8,935	10,141
Jerruck	705	1,183	1,111	5,007	10,790	4,185
Total ..	13,992	12,005	2,988	5,979	81,546	80,843

63. The total yield of timber in each division is given in the subjoined table :—

Name of Division	Timber		Posts		Rafters	
	1889 90	1890 91	1889 90	1890 91	1889 90	1890 91.
	C ft.	C. ft	No	No	No.	No.
Sukkur	9,172	20,864	14,116	7,377	72,518	89,510
Naushahro	6,977	1,919	1,195	427	24,047	16,219
Hyderabad .	21,623	21,762	3,073	3,693	1,20,855	1,51,102
Jerruck	11,640	12,782	1,411	7,007	11,810	23,685
Total .	49,412	57,327	19,825	18,504	2,29,220	2,80,516

64. The total yield of firewood in each division is as under :—

Name of Division.	Firewood.	
	1889-90.	1890-91.
	Mds.	Mds.
Sukkur	14,32,838	13,58,767
Naushahro	5,32,341	5,08,653
Hyderabad	5,81,425	5,55,810
Jerruck	1,72,958	3,17,670
Total ...	27,19,562	27,40,900

65. The total yield in charcoal is given below :—

Name of Division.	Charcoal.	
	1889-90.	1890-91.
Sukkur	1,573	674
Naushahro	5,124	5,539
Hyderabad	2,143	2,873
Jerruck	33,596	44,474
Total ...	42,436	53,560

66. The following statement gives in cubic feet the total yield of timber, firewood and charcoal in each division :—

Name of Division.	Outturn.			
	Timber of all kinds.	Firewood.	Charcoal.	Total.
	C. ft.	C. ft.	C. ft.	C. ft.
Sukkur	73,340	74,79,365	3,033	75,55,738
Naushahro	19,651	26,54,216	24,925	26,98,792
Hyderabad...	1,00,362	32,03,126	12,929	33,16,417
Jerruck	33,501	15,47,522	2,00,133	17,81,156
Total ...	2,26,854	1,48,84,229	2,41,020	1,53,52,103

67. The total yield of the circle in timber, firewood and charcoal is as under :—

Timber	1889-90	C. ft.	49,412
	1890-91	,	57,327
Posts	1889-90	No.	19,825
	1890-91	,,	18,504
Rafters	1889-90	,,	2,29,220
	1890-91	,,	2,80,516
Sleepers	1889-90	,,	1,310
	1890-91	,,	1,328
Firewood...	1889-90	Mds.	27,19,562
	1890-91	,,	27,40,900
Charcoal	1889-90	,,	42,436
	1890-91	,,	53,560

68. The following statement gives the realisations, from the sales of farms to collect minor produce, for two years :—

Name of Division	Bábul pods.		Lac.		Munj and sar grass, &c		Fishery.	
	1889 90	1890 91	1889 90	1890 91	1889 90	1890-91	1889-90	1890-91.
	Rs.	Rs	Rs.	Rs	Rs.	Rs.	Rs	Rs.
Sukkur	365	457	..	...	662	887	1,349	2,428
Naushahro	3,415	3,227		..	520	562	793	928
Hyderabad	10 967	10,113	840	1,730	79	82	663	570
Jerruck	3,937	3,019	.	...	...	...	1,011	353
Total ...	18,684	16,819	840	1,730	1,261	1,531	3,816	4,279

69. The decrease which will be noticed in the amount realized by bábul pods as compared with that of the last year is caused by the failure of the crop owing to the heavy and unseasonable rain that fell during the cold weather, and though detrimental in this respect, those showers produced good pasture outside forest limits to which cattle-owners, who formerly purchased bábul pods, were attracted in large numbers

70 The increase in the sales of lac, grass and fishery is due to a rise in the market value of the produce.

71. The receipts from grazing fees is given in the subjoined table .—

Name of Division	Grazing fees	
	1889 90.	1890-91
	Rs.	Rs
Sukkur	16,017	16,384
Naushahro	9,256	9,748
Hyderabad	17,064	16,697
Jerruck	14,854	14,046
Total ...	57,191	56,875

72. The area under cereal cultivation and the amount realised by assessment are given below :—

Name of Division	Area under cultivation				Amount realised by assessment			
	Kharif.		Rabi.		Kharif		Rabi	
	1889 00	1890 91	1889 90	1890 91	1889 90	1890 91	1889 90	1890-91
	Acres	Acres	Acres	Acres.	Rs	Rs	Rs	Rs
Sukkur	735	661	3,031	2,607	1,714	1,196	11,321	10,218
Naushahro	942	522	3,312	3,736	2,249	1,501	9,264	10,750
Hyderabad	519	436	792	1,449	1,381	972	1,739	2,685
Jerruck	556	797	68	378	1,908	2,511	120	491
Total ...	2,752	2,416	7,203	8,170	7,552	6,180	22,444	24,144

73. The total increase in the area cultivated is 631 acres; the most of this was unauthorised In one instance 300 acres in excess of the area granted were cultivated, and, as a rule, most grants are exceeded by a few acres. I have arranged to put a stop to this for the future.

CHAPTER V.

Financial Results.

74. The total receipts, expenditure and net revenue for the last two years are given in the following statement :—

	Actuals, 1889-90.	Actuals, 1890-91	Increase	Decrease
	Rs.	Rs.	Rs	Rs.
Receipts . .	6,26,762	6,80,892	54,130	....
Expenditure				
A Conservancy and Works ...	3,11,423	3,21,635	10,212	.....
B. Establishment	98,036	91,566	.	6,470
Total Expenditure	4,09,459	4 13,201	3,742	..
Net Revenue ...	2,17,303	2 67,691	50,388	. . .

75. The net revenue that was recorded in my last year's report was the highest that had up ot that time been obtained, but I have now to report a further increase of Rs 50,388 during last year.

76. The gross revenue of the Sind Circle now stands at Rs 6,80,892, and there is every prospect of its reaching a much larger figure. Nevertheless the expenditure on establishment has been gradually reduced until it is as low as Rs. 72,298.

77. The following statement exhibits the receipts and expenditure during the last 20 years —

Year	Receipts	Expenditure			Net profit	Name of Conservator
		A Conservancy and Works	B Establishment	Total		
	Rs	Rs	Rs.	Rs	Rs	
1871-72	2 42,675			1,44,518	98,157	Dr Schlich.
1872-73	2,54,995			1,62,271	92,721	Mr Hoxton
1873-74	2,59,415	1,17,964	63 928	1 81,892	77,523	Mr. Campbell.
1874-75 ...	2,70,598	1 31 903	63,115	1,95 018	75,580	Do
1875-76	2,82,359	1,31,610	58 810	1,90,420	91 939	Do.
1876-77 .	3,36 029	1,67 006	65 467	2 32 473	1,03,556	Colonel McRae
1877-78 ..	3,66,421	2,01,513	69 778	2 71,291	95,130	Do.
1878-79 ..	3,91,997	2,02,306	66,730	2,69,036	82,961	Do.
1879-80	1,10 458	2,17,729	69,522	2,87,251	1,03,207	Do.
1880-81	4,27,845	2,32 457	66,648	2 .9,105	1,28,740	Do.
1881-82	3,91,806	1,95,926	68 550	2,64,476	1,27,330	Mr Hexton.
1882 83	4,43,765	2,40,006	70,659	3,10,665	1 33,100	Do
1883 84	6,42,494	4,08,653	75,923	4,84,576	1,57,918	Do.
1884-85	4,76,493	2,77,004	85,439	3,62,443	1,14,050	Colonel McRae
1885 86	5,36,874	2,96,893	1,05,767	4,02,660	1,34,214	Do
1886-87 .	6,85,782	4,04,090	1,13,613	5,17,703	1,68,079	Do.
1887-88 ...	6,32,302	3,54,985	1,11,142	4,66,127	1,66,175	Do.
1888-89 ..	4,15,867	1,85,884	1,00,227	2,86,111	1,29,756	Do.
1889-90 ..	6,26,762	3,11,423	98,036	4,09,459	2,17,303	Mr Hexton
1890-91 ...	6,80,892	3,21,635	91,566	4,13,200	2,67,691	Do

78 Actual expenditure on salaries during the last six years is shown below:—

Year	Controlling Staff.	Protective Staff.	Office Staff.	Total.
	Rs.	Rs.	Rs.	Rs.
1885-86	41,133	33,582	9 075	83,790
1886-87	41,344	39,329	10,919	91,622
1887-88	42,653	38,064	9,528	90,245
1888-89	38,120	37,909	9,408	80,137
1889-90	31,375	37,973	9,524	78,872
1890-91	24,817	37,996	9,485	72,298
Total ...	2,14,442	2,24,853	57,969	4,97,264

79. During the year 1886-87, when the gross revenue rose to Rs. 6,85,782, the expenditure on salaries amounted to Rs. 91,622, or Rs. 19,324 more than it is at present. In my last year's report I mentioned the injudiciousness of curtailing the expenditure on establishment, and I am still of the opinion that the present establishment is most inadequate, both as regards its numerical strength and the qualification of its members.

General Remarks.

80. The Acting Conservator visited all the forests in the Naushahro and Hyderabad Divisions and some in the Sukkur Division. His progress through the districts was greatly retarded by the constant heavy falls of rain which made it perfectly impossible at times to travel, and hindered the completion of his intended tour. The inclemency of the weather necessitated many more numerous and longer halts than he has ever hitherto made; but taking this into consideration, all the forests he was able to visit during the cold season were thoroughly inspected.

81. The records and accounts of all four divisions were examined.

82. The Divisional Forest Officers, especially Mr. Ryan and Mr. Shoukirám, who both have charge of very important divisions, performed their respective duties satisfactorily.

83. The trained Range Forest Officers, Messrs. Manghárám Methárám and Dalpatrái, are striving for promotion, and have been working hard; and from what I have seen of their work, I am further convinced it would be a very great advantage if all our Range Forest Officers were similarly trained, and I am therefore sending students yearly to the Poona College of Science.

84. With the exception of some men who are wanting in ability, and a few who were dismissed, all Rangers, foresters and forest guards belonging to the Circle, have done their duty.

85. The office establishment deserve notice, for in all four divisions the work of accounts and correspondence, along with examination of permit, transit and grazing passes has increased, and I have frequently observed clerks and munshis diligently at work long after office hours, and think that they are therefore entitled to some praise.

86. In my personal office Mr. Permánand has proved himself a good accountant, and his examination of the divisional accounts and records has been carefully and thoroughly carried out.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

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A

Statement showing the number of cattle impounded in open and closed Forests of the Sind Circle during the year 1890-91.

Name of Division	Number of Cattle impounded in		Total	Remarks.
	Open Forests	Closed Forests		
Sukkur ...	4,938	244	5,182	
Naushahro .	2,816	2,733	5 549	
Hyderabad ...	1,520	4,421	5,941	
Jerruck	937	496	1,433	
Total	10,211	7,894	18,105	

W. S. HEXTON,
Conservator of Forests, Sind Circle

ANNUAL FORM No. 49.

Forest Department, Bombay, Sind Circle.

Area of Reserved Forests, 1890-91.

Division.	Civil District	Name of Forest	Area on 1st April 1890		Added during the year.	Excluded or transferred to other Heads.	Area on 31st March 1891.		Number and date of Notification of addition or transfer.	Remarks.
			Acres	Equivalent in Square miles.	Acres.	Acres	Acres.	Equivalent in Square miles.		
				Sq. m. acres.				Sq. m acres.		
Sukkur	Shikárpur	Rooti	8 129	12 449	...		8 129	12 449		
		Jamshero	6,616	10 216	...	..	6,616	10 216		
		Daresh ..	1,725	2 445	...		1,725	2 445		
		Ubauro	3,150	4 590	...		3,150	4 590		
		Mirpur	7,251	11 211	...		7,251	11 211		
		Rahárki ...	1,654	2 374	..	...	1,654	2 374		
		Reti	2 388	3 468	...		2,388	3 468		
		Rangu	972	1 332	...	...	972	1 332		
		Narli	1,376	2 96	...	..	1,376	2 96		
		Sarhad ..	3,529	5 329	...	...	3,529	5 329		
		Islam ..	2,064	3 144	...	..	2,064	3 144		
		Jehanpur	4,340	6 500	...		4,340	6 500		
		Babab	8,985	14 25	...	...	8,985	14 25		
		Budh	1,217	1 577	...	...	1,217	1 577		
		Sadhuja	7 641	11 601	...		7,641	11 601		
		Shahpur	11 215	17 335		..	11,215	17 335		
		Pawhari ..	587	0 587	...	...	587	0 587		
		Hussenbeli	3 407	5 207	.	...	3,407	5 207		
		Azizpur ..	880	1 240	..		880	1 240		
		Ding	1,543	2 263		..	1,543	2 263		
		Syedpur	8 216	12 536	.	...	8,216	12 536		
		Rohri ...	22,551	35 151		..	22,551	35 151		
		Sultanpur ..	1,753	2 473			1,753	2 473		
		Sahani	5,014	7 534	.	...	5,014	7 534		
		Ghotki	4,200	6 360	..		4,200	6 360		
		Adilpur	12,676	19 516			12,676	19 516		
		Walu Mahar ..	2 648	4 88	...	...	2,648	4 88		
		Sumowah ..	2.252	3 332		.	2,252	3 332		
		Wasir	1,417	2 137	..	.	1,417	2 137		
		Jarwar	2,839	4 279		.	2,839	4 279		
		Abad	5,604	8 484	..		5,604	8 484		
		Kadirdini Bindi	2,306	3 386	...	..	2,306	3 386		
		Khia Bindi	3,118	4 558	...	...	3,118	4 558		
		Shah	13,433	20 633	...	...	13,433	20 633		
		Bindi Dhareja ..	6,866	10 466	...	...	6,866	10 466		
		Kadrapur	2,564	4 4	...	...	2,564	4 4		

Naushahro	Upper Sind Frontier	Mohro Mari	11,857	18	337	...	...	11,857	18	337	7049 of 6th October 1890
		Andaldal	12,193	19	33	...	89	12,104	18	584	
		Bagarji	13,920	21	480	...	36	13,884	21	444	
		Raiswah	905	1	265	...	...	905	1	265	
		Lakhi	3,614	5	414	...	...	3,614	5	414	
		Ghari Halim	2,096	3	176	...	..	2,096	3	176	
		Kot Sultan	17,342	27	62	...	...	17,342	27	62	
		Abad	985	1	345	...	...	985	1	345	
		Mehrabpur	991	1	351	...	...	991	1	351	
		Dilawarpur	925	1	285	...	...	925	1	285	
		Milkiat Sircar	1,923	3	3	...	...	1,923	3	3	
		Bakapur	9,839	15	239	...	...	9,839	15	239	
		Dilmurad	1,141	1	501	...	...	1,141	1	501	
		Zangipur	5,334	8	214	...	...	5,334	8	214	
		Sarki	3,773	5	573	...	...	3,773	5	573	
		Baluchabad	765	1	125	...	...	765	1	125	
		Korar	875	1	235	...	...	875	1	235	
		Mirpur	6,978	10	578	...	...	6,978	10	578	
		Jangan	2,291	3	371	...	..	2,291	3	371	
		Karampur	5,770	9	10	...	...	5,770	9	10	
		Keti Sadhuja	6,001	9	241	...	...	6,001	9	241	
		Total, Sukkur Division	2,85,644	446	204	...	125	2,85,519	446	79	
	Shikárpur	Dosu	4,033	6	193	...	...	4,033	6	193	
		Keti Ubhuro	5,575	8	455	...	...	5,575	8	455	
		Kanuri	3,630	5	430	...	...	3,630	5	430	
		Sharifpur	1,027	1	387	...	...	1,027	1	387	
		Bahman	1,547	2	267	...	...	1,547	2	267	
		Naoabad	2,205	3	285	...	...	2,205	3	285	
		Phati Bilawal	711	1	71	...	...	711	1	71	
		Amrote	11,684	18	164	...	...	11,684	18	164	
		Muso	5,930	9	170	...	...	5,930	9	170	
		Kasimshah	2,107	3	187	...	...	2,107	3	187	
		Nari	1,522	2	242	...	...	1,522	2	242	
		Magsi	1,483	2	203	...	...	1,483	2	203	
		Dangar	3,685	5	485	...	...	3,685	5	485	
		Soi	5,108	7	628	...	...	5,108	7	628	
		Budo Dero	1,555	2	275	...	...	1,555	2	275	
		Ghangharko	5,849	9	89	...	...	5,849	9	89	
		Gaji Dero	4,333	6	493	...	...	4,333	6	493	
		Garhi Yasin	25,328	39	368	...	...	25,328	39	368	
	Hyderabad	Bhour	10,539	16	299	...	...	10,539	16	299	
		Mohbatdero	8,045	12	365	...	...	8,045	12	365	
		Samtia	3,390	5	190	...	...	3,390	5	190	
		Kamaldero	1,365	2	85	...	...	1,365	2	85	
		Bhorti	10,790	16	550	...	...	10,790	16	550	
		Dalipota	867	1	227	...	...	867	1	227	

ANNUAL FORM No. 49—*continued.*

Division	Civil District.	Name of Forest	Area on 1st April 1890			Added during the year.	Excluded or transferred to other Heads.	Area on 31st March 1891			Number and date of Notification of addition or transfer	Remarks.
			Acres.	Equivalent in Square miles.		Acres	Acres.	Acres.	Equivalent in Square miles			
				Sq	m acres				Sq.	m. acres.		
Naushahro—*continued.*	Hyderabad—*continued.*	Khairodero	13 073	20	273	...	. .	13.073	20	273		
		Lalia	4,192	6	352	.	.	4.192	6	352		
	Karáchi .	Karampur	2,924	4	364	...	.	2924	4	364		
		Baghbau	1,947	3	27	...	...	1.947	3	27		
		Bhan	1,138	1	498	. .	. .	1,138	1	498		
		Phaka	2,207	3	287	...	...	2,207	3	287		
		Kalubori	748	1	108	.	..	748	1	108		
		Pipri	925	1	285	...	. .	925	1	285		
		Total, Naushahro Division	1,49,462	233	342	...	.	1,49,462	233	342		
Hyderabad	Hyderabad	Lakhat	6,380	9	620	...	...	6,380	9	620		
		Nasri	1,556	2	276	...	...	1,556	2	276		
		Mad	2,642	4	82	...	...	2,642	4	82		
		Mehrabpur	3,338	5	138	...	..	3,338	5	138		
		Mari	14,753	23	33	...	.	14,753	23	33		
		Pai	5,130	8	10	.	...	5,130	8	10		
		Keti Jurio	2,125	3	205	...	...	2,125	3	205		
		Rano	1,627	2	347	...	. .	1,627	2	347		
		Nurketi	4,061	6	221	...	.	4,061	6	221		
		Bhanote	841	1	201	...	...	841	1	201		
		Khebrani	760	1	120	...	.	760	1	120		
		Khanote	8,666	13	346	...	..	8,666	13	346		
		Sukhat	2,067	3	147	13		2,080	3	160	4195 of 16th June 1890.	
		Jakhri	1,926	3	6	...	.	1,926	3	6		
		Mahari	5,354	8	234	...	...	5,354	8	234		
		Ghali	3,041	4	481	...	...	3 041	4	481		
		Miani	4,917	7	437	...	...	4,917	7	437		
		Kathri	756	1	116	...	..	756	1	116		
		Gundi	2,150	3	230	...	. .	2,150	3	230		
		Muhammad Khan	181	0	181	...	..	181	0	181		
		Jam Shoro	292	0	292	...	...	292	0	292		
		Shah Makai	411	0	411	...	...	411	0	411		
		Keti Mehrani	5,523	8	403	. .	...	5,523	8	403		
	Karáchi ...	Gadarji	855	1	215	...	..	855	1	215		
		Butto	7,748	12	68	.	...	7,748	12	68		
		Manjhand	1,539	2	259	...	...	1,539	2	259		

			Unarpur	10,705	16	465	..	...	10,705	16	465		
			Ghag	1,296	2	16	...	..	1,296	2	16		
			Karokhao	1,701	2	421	.	..	1,701	2	424		
			Total, Hyderabad Division.	1,02,341	159	581	13	..	1,02,354	159	594		
			Viran	9,142	14	182	...	.	9,142	14	182		
			Sonda	2,114	3	194	...	...	2,114	3	194		
			Hilaya	2,898	4	338	..	...	2,898	4	338		
			Lalang	5,151	8	31	. .	...	5,151	8	31		
			Shah Lonko	1,690	2	110	...	...	1,690	2	410		
			Gurko	4,079	6	239	...	.	4,079	6	239		
			Kacho Shah Lonko ..	313	0	313	...	...	313	0	313		
			Do Ali Ganj	715	1	75	...	...	715	1	75		
			Do Bao Purandas ..	6,413	10	13	. .	.	6,413	10	13		
			Do Bijora .. .	5,890	9	130	...	...	5,890	9	130		
			Do. Chachh	3,362	5	162	...	...	3,362	5	162		
			Malir	24	0	24	...	...	24	0	24		
			Kacho Ali Bahar	3,000	4	440	..	...	3,000	4	440		
		Karachi ...	Do. Surjani	3,410	5	210	...	...	3,410	5	210		
			Do Kot Almo	2,335	3	415	...	...	2,335	3	415		
			Penah	6,169	9	409	...	...	6,169	9	409		
			Susati	39	0	39	...	...	39	0	39		
Jerruck ..			Khirsar	1,380	2	100	..	...	1,280	2	100		
			Huderam	5,511	8	391	..	...	5,511	8	391		
			Surjani	1,364	2	84	.	...	1,364	2	84		
			Ganj	2,228	3	308	.	...	2,228	3	308		
			Hazari	2,483	3	563	...	. .	2,483	3	563		
			Maklulo	496	0	496	...	...	496	0	496		
			Laikpur	7,406	11	366	. .	...	7,406	11	366		
			Khadi	4,500	7	20	...	...	4,500	7	20		
			Phatah	258	0	258	.	...	258	0	258		
			Mulchand	5,454	8	334	...	...	5,454	8	334		
			Husri	420	0	420	...		420	0	420		
			Khatro .. .	416	0	416	...	...	416	0	416		
			Khathai	2,975	4	415	...	.	2,975	4	415		
			Katiar	952	1	312	...	. .	952	1	312		
		Hyderabad ...	Khirdaki	290	0	290	...	...	290	0	290		
			Tikhur ...	1,709	2	429	.	...	1,709	2	429		
			Khokhar	1,556	2	276	..	...	1,556	2	276		
			Bud ka Takar . .	975	1	335	.	..	975	1	335		
			Total, Jerruck Division..	97,117	151	477	...		97,117	151	477		
			Grand Total of the Sind Circle ...	6,34,564	991	324	13	125	6,34,452	994	212		

Conservator's Office,
Hyderabad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 49A.

Forest Department, Bombay, Sind Circle.

Area of Protected Forests, 1890-91.

Division.	Civil District.	Name of Forest.	Area on 1st April 1890.		Added during the year.	Excluded or transferred to other heads	Area on 31st March 1891.		No and date of Notification of addition or transfer.	Remarks
			Acres.	Equivalent in Square miles.	Acres.	Acres.	Acres.	Equivalent in Square miles.		
				M. a.				M. a.		
Sukkur ..	Upper Sind Frontier ..	Macaulay	183	0 183	...	...	183	0 183		
		Dickson	585	0 585	...	...	585	0 585		
		Total ..	768	1 128	...	...	768	1 128		
Jerruck ...	Karáchi	Kacho Sonda	117	0 117	...	...	117	0 117		
		Total ..	885	1 245	...	...	885	1 245		

Conservator's Office,
Hyderabad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 50.

Forest Department, Bombay, Sind Circle.

Prosecutions for breaches of Forest Rules during 1890-91.

Forest Division and Civil District.	Cases pending from 1889-90.	New Cases of the Year.					Total cases.	Disposed of during the Year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Upper Sind Frontier District.														
Sukkur Division	2	...	7	...	4	11	13	10	20	3	6	13	26	...
Shikárpur District.														
Sukkur Division	3	1	4	2	3	10	13	4	5	8	24	12	29	1
Naushahro Division	1	...	5	...	5	10	11	2	6	6	35	8	41	3
Hyderabad District.														
Naushahro Division	1	...	4	...	...	4	5	2	3	3	5	5	8	...
Hyderabad „	...	...	9	...	2	11	11	11	24	...	2	11	26	...
Karáchi District.														
Naushahro Division	...	...	2	...	...	2	2	2	5	...	...	2	5	...
Hyderabad „	1	...	4	...	...	4	5	...	...	3	3	3	3	2
Jerruck „	...	...	1	4	...	5	5	5	6	...	...	5	6	...
Total ...	8	1	36	6	14	57	65	36	69	23	75	59	144	6

Conservator's Office,
Hyderabad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

FORM No. 51.

FOREST DEPARTMENT, SIND CIRCLE.

Area of Forest tracts protected from fire during the dry season of 1891, to accompany report 1890-91.

Division.	Forest tracts.	Year in which commenced.	Area actually protected up to 15th June 1890.	During dry Season, 1891.			Cost during the Season.	Remarks.
				Area attempted to be protected.	Failure.	Area actually protected.		
			Acres.	Acres.	Acres.	Acres.		
Sukkur	Mirpur	Not known ...	47,222	47,144	394	46,750		
	Ghotki		26,014	26,032	177	25,855		
	Sadhuja		80,750	73,209	1,833	71,376		
	Abad		50,173	46,705	2	46,703		
	Sukkur		27,061	25,988	4	25,984		
	Shikárpur	1887-88	23,957	23,957	...	23,957		
	Jacobabad	1885-86	15,367	15,431	...	15,431		
	Thull	1885-86	26,925	26,927	...	26,927		
Nanshahro ..	Bakrani	Not known ...	18,103	18,103	25	18,078		
	Kandiáro		18,762	18,762	92	18,670		
	Schwan		300	495	...	495		
Hyderabad ...	Rano	Do. ..	10,520	10,724	104	10,620		
	Unarpur...		13,050	13,050	...	13,050		
	Miani		3,636	3,833	...	3,833		
	Kotri		500	500	...	500		
Jerruck	Viran	Do. ...	3,829	3,829	...	3,829		
	Shahbandar		8,823	8,823	40	8,783		
	Mulchand		6,020	6,020	...	6,020		
	Katiar		1,603	1,603	...	1,603		
	Total ...	.....	382,615	371,135	2,671	368,464		

Conservator's Office,
Hyderabad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 52.

Forest Department, Sind Circle.

Area of Plantations 1890-91.

Division.	Name of Plantation.	Area in Acres.				Receipts	Charges	Remarks.
		On 1st April 1890.	Added during the year.	Excluded during the year.	Area on 31st March 1891.	of the year.		
	Regular Plantation.							
Sukkur	Aliwahan Garden	20	...	...	20	25	83	
	Rahuja Nursery	10	...	...	10	130	448	
	Sadhuja Plantation ...	25	2	...	27	1	84	
	Shah do. ...	7	...	...	7	...	155	
Hyderabad ...	Devi-Devi do. ...	13	...	...	13	251	202	
	Bamboo do. ...	13	...	...	13	...	96	
	Miani Bungalow, Mango and Monument Gardens	12	...	...	12	275	643	
Jerruck	Malir Nursery	24	...	...	24	...	84	
	Sonda do.	5	...	...	5	219	340	
	Total, Regular Plantation...	129	2	...	131	901	2,135	
	Cultural Operation.							
Sukkur	Abad	35	20	...	55	...	...	
	Bindi Dhareja	114	...	...	114	...	64	
	Shah	28	20	...	48	...	...	
	Mohro Mari...	45	...	...	45	...	...	
	Khia Bindi	22	...	...	22	...	...	
	Rohri	45	973	...	1,018	...	...	
	Syadpur	8	8	...	16	...	...	
	Changni	2	...	...	2	...	...	
	Saliani	20	8	...	28	...	...	
	Sultanpur	10	13	...	23	...	...	
	Azizpur	20	...	...	20	...	...	
	Ding	...	308	...	308	...	...	
	Adilpur	39	...	...	39	...	...	
	Sumowah	22	...	22	...	...	...	22 acres were opened to grazing.
	Rasti...	...	30	...	30	...	...	
	Gublo	...	5	...	5	...	...	
	Dickson	3	...	3	...	...	...	3 Do. do.
	Total ...	413	1,385	25	1,773	...	64	
Naushahro ...	Bhour	874	...	...	874	...	...	
	Kamaldero	100	...	...	100	...	...	
	Bhorti	50	...	...	50	...	...	
	Dalipota	125	...	...	125	...	...	
	Karampur	25	...	...	25	...	...	
	Phaka	250	...	...	250	...	...	
	Pipri	267	...	...	267	...	...	
	Baghban	17	...	...	17	...	...	
	Kalubori	20	...	...	20	...	...	
	Bhan	100	...	...	100	...	...	
	Sharifpur	45	...	...	45	...	...	
	Amrote	60	50	...	110	...	...	
	Muso	...	15	...	15	...	...	
	Bahman	...	30	...	30	...	...	
	Keti Ubhuro	...	3	...	3	...	...	
	Gajidero	15	...	...	15	...	...	
	Total ...	1,948	98	...	2,046	...	...	
Hyderabad ...	Mari	487	584	...	1,071	...	...	
	Vurketi	420	...	...	420	...	...	
	Mad	326	320	...	646	...	...	
	Rano	50	...	...	50	...	...	
	Keti Jurio	160	...	...	160	...	...	
	Mehrabpur	160	...	...	160	...	...	
	Butto...	1,955	160	480	1,635	...	...	480 acres were opened to grazing.
	Manjhand	158	...	...	158	...	...	
	Unarpur	1,145	320	320	1,145	...	...	320 Do. do.
	Khanote	25	418	...	443	...	...	
	Matiari	320	720	...	1,040	...	...	
	Miani	710	160	...	870	...	...	
	Mahamad Khan	181	...	...	181	...	...	
	Kathri	50	...	...	50	...	...	
	Shah Makai...	43	...	...	43	...	...	
	Jamsoro	23	...	...	23	...	...	
	Total ...	6,213	2,682	800	8,095	...	...	
Jerruck	Mulchand	269	15	...	277	...	...	
	Khadi	40	...	...	40	...	84	
	Penah	13	...	...	13	...	...	
	Laikpur	277	20	150	147	...	84	150 acres were opened to grazing.
	Viran	785	...	...	785	...	...	
	Garko	588	...	...	588	...	...	
	Shah Lonko...	198	57	...	255	...	...	
	Sonda	88	69	...	157	...	...	
	Hilaya	197	31	...	228	...	...	
	Tikhur	24	...	24	...	...	...	24 Do. do.
	Khokhar	60	...	...	60	...	...	
	Katiar	24	...	...	24	...	...	
	Khatro	17	...	17	...	...	...	17 Do. do.
	Bud ka Takur	107	...	...	107	...	...	
	Lalang	15	7	...	22	...	...	
	Total ...	2,695	199	191	2,703	...	168	
	Total, Cultural Operations...	11,269	4,364	1,016	14,617	...	232	
	Grand Total of Regular and Cultural Operations ...	11,398	4,366	1,016	14,748	901	2,367	

Conservator's Office,
Hyderabad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

FORM No. 54.

FOREST DEPARTMENT, SIND CIRCLE.

Outturn of Timber and Firewood, during the year 1890-91.

Division.	Description of Material.	Outturn in Cubic feet.							Remarks.
		Selection fellings.	Clearance.	Thinnings.	Total	Removed by Government Agency	Purchasers.	Free grant.	Right-holders
Sukkur	Babul logs	6,331	...	...	6,331	5,532	403	396	...
	Bahan ,,	11,086	.	...	11,086	7,262	2,605	1,219	
	Tali ,,	1,895	...	...	1,895	197	1,698	.	
	Babul dasos ..	323	..	..	323	323	..	...	...
	Bahan ,, .	2,102	...	...	2,102	2,102			...
	Babul posts .	540	..	...	540	534	6	...	.
	Bahan ,, ...	4,058	.	...	4,058	4,000	33	25	...
	Bhan rafters	19,597	..	...	19,597	16,407	2 452	738	
	Kandi logs	277	...	.	277		244	33	..
	Lai ,, ..	176	...	.	176	.	151	25	
	Jhau rafters ...	.	24,505	...	24,505	25	23,772	708	
	Kirir ,, ...	..	578	..	578		578		...
	Babul cart-axles	..	431		431	423	8		..
	Kandi pieces ...	.	481	..	481		481	.	...
	Bahan ,,		40	...	40	..	40		..
	Poplar bullies	243	...		243	243	..		...
	Babul pieces ..	...	2	.	2	...	2	..	
	Babul planks ...	..	7	...	7	7	.	.	
	Tali pieces		35	...	35	10	25		..
	Locomotive fuel		48,30 624	.	48 30,624	17,86,110	11,514		.
	Firewood ..	..	26,36,476		26,36,476	3,29,319	23,07,157		
	Charcoal	...	,033		3,033		3,033	..	..
	Total	46,628	74,96,212	.	75,42 840	51,52,494	23,87,202	3,144	
Naushahro .	Babul logs	1 557	.	...	1,557	548	960	40	
	Bahan ,, ..	17		...	17	16	1		.
	Kandi ,, ..	245	..		245	13	227	5	..
	Tali ,, ..	45	...	...	45		45	...	..
	Lai ,,	26	.	...	26	2		24	...
	Lai pieces ...	30		..	30	..	30	..	...
	Babul posts .. .	5		.	5		5		.
	Kirir rafters	14	..	...	14	.	14	...	
	Bahan posts ..	422		...	422	236	186	...	.
	Bahan rafters	3,635	..		3,635	3,560	..	75	..
	Kirir ,, . ,	.	4,809	...	4,809	50	4,699	60	
	Jhau ,,		8,291	...	8,291	1,390	6,476	425	
	Babul sleepers ...	98		..	98	98		..	...
	Jhau pegs		441		441		441	..	...
	Jhau bairs ..	...	2		2		2	..	
	Babul slabs . ..	14			14			14	...
	Firewood		4,16,380		4,16,380	62,309	3,54,071		..
	Locomotive fuel .	.	22,47,836		22,47,836	22,34,836	3,000		
	Charcoal		24,925	...	24,925	24,759	166	...	...
	Total .	6,108	26,92 684	..	26,98,792	23,27,817	3,70,332	643	
Hyderabad	Babul logs .	12,018		..	12,018	8,151	3,071	496	..
	Babul dasos	4,016	..		4,016	4,016	...	...	
	Bahan logs	1,034	..		1,034	544	490	...	
	Babul bolsters .	56			56	56	...		
	Babul sleepers	4,550			4,550	4,550			..
	Bhan dasos ...	.	...	.			...	..	
	Bahan posts .	1,877	.	...	1,877	1,845	32		
	Bahan rafters ...	68,516			68,516	67 825	591	100	
	Jhau ,, .. .	5,683	..	...	5,683	2,653	2,880	150	..
	Kirir ,, ...	1,601		..	1,601	1	1,600		
	Babul ,,	3		...	3	3			..
	Babul planks	6	.	..	6	6	...		
	Jhau bairs	24			24		24	..	
	Babul posts . .	414	...	...	414	...	414	..	
	Jhau pegs	558		..	558	...	558	...	...
	Tali logs	6		.	6	...	0	..	
	Firewood ...	.	16,35,721		16,35 721	13,47,347	2 88,374		
	Charcoal ..	...	12,929	.	12,929	12,920		...	
	Locomotive fuel	..	15,67,405	...	15,67,405	15,67,405	...	..	
	Total	1,00,362	32,16,055		33,16,417	30,17,631	2,08,040	716	
Jerruck ..	Babul logs . .	16,710		...	16,710	11 387	1,178	4,145	
	Babul bolsters ...	212	...		212	212	.		
	Bahan posts ...	558	...	.	558	558	...		
	Bahan rafters	4,550	..		4,550	4,550	...		
	Kirir ,, . ..	500	..	..	500	500	..		.
	Jhau posts .. .	3,360		...	3,360	694	2,666	...	...
	Jhau rafters ...	6,910	...	...	6,910	1,700	1,835	375	
	Babul ,, ...	258	.	.	258		258	...	...
	Babul posts .	438	..		438		438	...	
	Jhau bairs ..	5			5	...	5	..	
	Firewood ...		11,34,398	...	11,34,398	11,05,049	29,349	...	
	Locomotive fuel ..		4,13,124	...	4,13,124	4,13,124	...	...	
	Charcoal		2,00,133		2,00,133	2,00,133	...	.	
	Total	33,501	17,47,655	...	17,81,156	17,40,907	35,729	4,520	

Conservator's Office,
Hyderabad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

FORM No. 54 A.

Forest Department, Sind Circle.

Outturn of Timber and Firewood, during the year 1890-91.

Division	Description of material.	Outturn in Cubic feet.								Remarks.
		Selection fellings.	Clearance.	Thinnings	Total.	Removed by				
						Government Agency	Purchasers.	Free grant.	Right-holders.	
				Protected Forests.						
Sukkur	Babul logs	340	...	...	340	...	340	...	...	
	Babul cart-axles	...	168	...	168	...	168	...	...	
	Jhau rafters	...	125	...	125	...	125	...	...	
	Firewood	...	7,715	...	7,715	...	7,715	...	...	
	Locomotive fuel	...	4,550	...	4,550	...	4,550	...	...	
	Total ...	340	12,558	...	12,898	...	12,898	...	...	

Conservator's Office,
Hyderabad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

FORM No. 55.

FOREST DEPARTMENT, SIND CIRCLE.

Outturn of Minor Forest Produce.

Division.	Description of produce.	Produce removed or utilized: By Government Agency. Quantity.	By Government Agency. Value.	By purchasers. Quantity.	By purchasers. Value.	By free grant. Quantity	By free grant. Value.	By right-holders. Quantity.	By right-holders. Value.	Total Quantity.	Total Value.	Remarks.
			Rs.		Rs		Rs.		Rs.		Rs.	
Sukkur	Babul and Kandi pods	...	.	Contract.	457	...	..	.	...	Contract.	457	
	Munj and reed ...	.	.	,,	881	..	..	...	.	,,	881	
	Reed grass	. .	..	Bdls. 51	6	Bdls. 23	1	...		Bdls. 74	7	
	Kanh grass .. .	..	...	,, 951	68	..	..	...	...	,, 951	68	
	Dabh grass	...		Mds. 791	49	...		.	.	Mds. 791	49	
	Kandi and Lai branches .	....	...	C ft. 1,584	16	...	...	...	..	C. ft. 1,584	16	
	Compensation for damaging branches and trees ..	. . .	..	...	12	...	...	...	..	....	12	
	Tooth-brushes . ..	.. .	..	Mds. 2	1	...	...	..	..	Mds. 2	1	
	Ber fruit	.. ...	.	Contract.	27	...	.	...	.	Contract.	27	
	Jhau brushwood ...	..	..	Bdls. 3,235	204	Bdls. 98	6	..	...	Bdls. 3,333	210	
	Fruit, &c. .	. .	156	...	.		.	.	.	.. .	156	
	Babul seed	6	6	..	.		.	.	...	6	6	
	Grazing fees .. .	...	...	.....	16,384	...		..		. .	16,384	
	Total ..	.. ..	162	..	18,105	.	7	..	..	.. ..	19,274	
Nawabshro	Babul pods	....	..	Contract.	3,227	.	...	.	..	Contract.	3,227	
	Sur grass	.	...	..	544	..	..	...		,,	544	
	Do. ..	...	..	Bdls. ,, 99	18	...	...		...	Bdls. 99	18	
	Branches of trees	.		233	76	...	..	.		233	76	
	Jhau brushwood ...	...	...	196	12	06	6	..	...	202	18	
	Grazing fees ...	.	..	....	9,748	...		..	..	...	9,748	
	Total ..	.. ..	...	. .	13,625	.	6	.	.	.	13,631	
Hyderabad	Babul bark	Mds. 2,151	827	Mds. 113	26	.		.	.	Mds 2,264	853	
	Tooth-brushes	. .	.	,, 29	10	. .	...	.		,, 29	10	
	Brushwood .. .	. .		Bdls 687	46	.			..	Bdls. 687	46	
	Kanh and Sur grass	..		,, 2,386	158	Bdls. 40	3		.	,, 2,426	161	
	Babun brushwood	. ..	...	,, 12	3	.	.	..		,, 12	3	
	Compensation for damaging trees	.		..	230	...	..	...	.	. .	230	
	Kanh . .	... ..	..	Contract.	92	..	..	...		Contract.	92	
	Kirro . .	....		,,	17	...	...	..	.	,,	17	
	Mangoes	.	...	,,	275	...	...	..	.	,,	275	
	Babul pods	.....	...	,,	10,113	...	...	.	.	,,	10,113	
	Honey	.	.	Sers. 16	3	..	.	...		Sers. 16	3	
	Lac	.	...	Contract.	1,730	.	...	...	.	Contract.	1,730	
	Do.	..	...	Mds. 29	48	...	..	...	..	Mds. 29	48	
	Babul seed .	Mds. 2	4	...	.	.	...	...	..	,, 2	4	
	Lal seed . . .	Sers 16	1	...	.	.	...	..		Sers 16	1	
	Babul pods .. .	Mds. 4	9	.. ...	...	...	...	...	...	Mds. 4	9	
	Grazing fees .	.	.	....	16,697	...	...	..	.	. . .	16,697	
	Total ...	.	841	.	29,438	.	3	...	...	.	30,282	
Jerruck	Babul bark ..	Mds. 460	166	.....	..	..	.	...	..	Mds 460	166	
	Tamarisk seed .. .	,, 1	2	..	...	..	..	.		,, 1	2	
	Jhau Bairo	. . .	...	No. 1	1	..	..	...	...	No. 1	1	
	Jhau brushwood .	...		Bdls. 1,287	80	..	...	..	.	Bdls. 1,287	80	
	Potash	. ..		Mds. 85	21	..	...	.		Mds. 85	21	
	Fruit	. . .	.	Contract.	271	...	..	.	.	Contract.	271	
	Babul pods .. .	. . .	.	,,	3,019	...	.	..	.	,,	3,019	
	Kanh grass	. ....	...	Bdls. 282	18	...	...	..	.	Bdls. 282	18	
	Rood ,, ...	.		,, 560	35	..	...	.	..	,, 560	23	
	Kambo	..		,, 44	3	..	..	..	...	,, 44	3	
	Compensation .. .	.	..	.....	38	...	..	..	.	... .	38	
	Grazing fees . ..	. . .	.	... .	14,046	..	...	...	.	. ..	14,046	
	Total ..	461	168	.	17,532	...	...	...	..	..	17,700	

Conservator's Office,
Hyderabad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 56.

Forest Department, Sind Circle.

Account of Timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1890-91.

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
TIMBER.				
Balance at commencement of the year.				
Sukkur Division.				
Sale Depôts.				
Babul logs	602	8,347		
Bahan logs	391	3,473		
Tali logs	7	32		
Bahan and babul dasas	473	1,002		
Babul posts	255	...		
Bhan rafter	8,751	...		
Babul cart axles	35	...		
Bhan posts	1,580	...		
Tali pieces	13	...	12,107	8,374
Forest Depôts.				
Babul posts	10	...	10	.....
Nawabshah Division.				
Sale Depôts.				
Babul sleepers	28	...		
Bahan posts	591	...		
Do. rafters	2,161	...	2,780	.....
Forest Depôts.				
Babul logs	80	472	80	472
Hyderabad Division.				
Sale Depôts.				
Babul logs	331	3,845		
Do. logs	1	...		
Bhan logs	20	242		
Do. dasas	25	...		
Do. posts	1,250	...		
Do. rafters	50,200	...		
Jhau rafters	1,400	...		
Kirir do.	1	...		
Babul outer slabs	17	...		
Do. rafters	34	...		
Do. planks	10	...		
Do. bolsters	73	344		
Kirir knees	40	...	53,402	4,431
Forest Depôts.				
Babul sleepers	4	...		
Do. logs	8	...		
Do. pieces	7	...	19	.....
Jerruck Division.				
Sale Depôts.				
Babul logs	63	665	63	665
Forest Depôts.				
Babul logs	314	3,764	314	3,764
Total balance	...	...	68,775	17,706
Received from Forests in Sale Depôts.				
Babul logs	1,018	11,355		
Bhan do.	910	4,965		
Tali do.	14	109		
Babul planks	13	...		
Do. and bhan dasas	1,354	4,909		
Jhau posts	1,200	...		
Babul sleepers	1,300	...		
Do. cart axles	810	...		
Do. posts	697	...		
Bhan bullies	155	...		
Do. posts	11,317	...		
Do. rafters	1,20,358	...		
Jhau do.	13,755	...		
Kirir do.	1,000	...		
Tali pieces	6	...		
Deodar planks	40	...	1,63,300	21,329
Received in Forest Depôts.				
Babul logs	576	4,222		
Do. sleepers	12	...		
Bahan logs	3	12		
Kandi do.	4	17		
Tali do.	4	36		
Bhan posts	725	...		
Do. rafters	6,969	...		
Poplar bullies	330	...		
Jhau rafters	3,190	...		
Kirir do.	100	...		
Bhan dasas	20	...		
Lai logs	14	4		
Babul rafters	1,900	...	13,734	4,291
Total Timber	...	...	2,48,376	53,365

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
TIMBER.				
Removed by purchasers from Depôts.				
Babul logs	1,853	16,344		
Bahan do.	1,302	7,613		
Tali do.	21	161		
Babul bolsters	65	306		
Do. planks	22	...		
Do. and bhan dasas	1,527	6,347		
Jhau posts	1,100	...		
Babul sleepers	1,728	...		
Do. cart axles	845	...		
Do. posts	862	...		
Bhan bullies	155	...		
Do. posts	10,808	...		
Do. rafters	1,61,380	...		
Babul rafters	5	...		
Jhau do.	14,385	...		
Kirir do.	1,001	...		
Tali pieces	19	...		
Kirir knees	40	...		
Deodar planks	40	...	3,15,625	31,471
Sold Locally.				
Babul logs	390	3,099		
Bhan do.	2	9		
Kandi do.	3	13		
Tali do.	4	26		
Bhan posts	400	...		
Do. rafters	3,880	...		
Poplar bullies	300	...		
Jhau rafters	3,190	...		
Kirir do.	100	...		
Lai logs	13	2	7,782	3,129
Used by Department.				
Bhan posts	3	...		
Do. rafters	3	...	6	
Converted in Sale Depôts.				
Babul logs	429	2,121		
Babul dasas	33	94	462	2,215
Transferred to other Depôts.				
Babul posts	10	...	10	
Written off.				
Babul logs	46	101	46	101
Converted in Forest Depôts.				
Babul logs	251	3,663	251	3,663
Balance at close of the year.				
Sukkur Division.				
Sale Depôts.				
Bhan logs	119	782		
Do. dasas	18	70		
Do. posts	73	...		
Do. rafters	10	...	220	852
Forest Depôts.				
Bhan dasas	20	...		
Do. posts	325	...		
Do. rafters	3,036	...	3,381	
Nawabshah Division.				
Sale Depôts.				
Bhan logs	8	66		
Do. posts	283	...		
Do. rafters	7	...	297	266
Forest Depôts.				
Babul logs	274	1,591		
Bhan do.	1	3		
Lai do.	1	2		
Kandi do.	1	4	277	1,600
Hyderabad Division.				
Sale Depôts.				
Babul logs	7	65		
Do. log	1	...		
Bhan log	1	7		
Do. dasas	275	...		
Do. posts	4,078	...		
Do. rafters	9,600	...		
Jhau do.	800	...		
Babul do.	20	...		
Do. outer slabs	17	...		
Do. plank	1	...		
Jhau posts	100	...		
Babul bolsters	8	33	14,916	110
Forest Depôts.				
Babul sleepers	16	...		
Do. rafters	1,900	...		
Do. pieces	7	...	1,923	
Jerruck Division.				
Sale Depôts.				
Babul logs	2	22	2	22
Forest Depôts.				
Babul logs	17	34	17	34
Total Timber	...	...	2,48,376	53,365

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
FIREWOOD AND CHARCOAL.				
Balance at commencement of the Year.				
Sukkur Division.				
Sale Depôts.				
Firewood ... ... Mds.	40,481	...		
Locomotive Fuel	...	15,443		
			40,481	15,443
Forest Depôts.				
Firewood ... ... ,,	11,745	...		
Locomotive Fuel	...	45,675		
			11,745	45,675
Nausahro Division.				
Sale Depôts.				
Forest Depôts.				
Firewood ... ... Mds.	5,181	...		
Locomotive Fuel	...	2,10,400		
Babul seed ... ... Mds.	25	...		
			5,206	2,10,400
Hyderabad Division.				
Sale Depôts.				
Firewood ... ... Mds.	32,169	...		
Locomotive Fuel	...	1,720		
Charcoal ... ... Mds.	678	...		
			32,847	1,720
Forest Depôts.				
Firewood ... ... ,,	5,200	...		
Locomotive Fuel	...	1,93,265		
			5,200	1,93,265
Jerruck Division.				
Sale Depôts.				
Firewood ... ... Mds.	1,250	...		
			1,250	.....
Forest Depôts.				
Firewood ... ... ,,	47,474	...		
Locomotive Fuel ... Mds.	...	4,61,525		
Charcoal ... ... ,,	4,641	...		
Babul seed ... ... ,,	240	...		
			52,355	4,61,525
Total Balance ...	...	...	1,49,984	9,28,028
Received from Forest in Sale Depôts.				
Firewood ... ... Mds.	2,51,261	...		
Locomotive Fuel	...	8,89,428		
Charcoal ... ... Mds.	2,201	...		
Babul bark ... ... ,,	2,614	...		
Do. seed ... ... ,,	229	...		
Do. pods ... ... ,,	4	...		
			2,56,309	8,89,428
Received in Forest Depôts.				
Firewood ... ... Mds.	78,096	...		
Locomotive Fuel	...	82,08,846		
Charcoal ... ... Mds.	46,382	...		
Babul seed ... ... ,,	204	...		
Lai seed ... ... ,,	17	...		
Kandi seed ... ... ,,	2	...		
			1,25,601	82,08,846
Received by conversion in Sale Depôts.				
Locomotive Fuel...	...	3,971		
			...	3,971
Received by transfer from other Depôts.				
Babul bark ... ... Mds.	120	...		
			120	.....
Received by conversion in Forest Depôts.				
Charcoal ... ... ,,	400	...		
			400	.....
Total Firewood			5,31,514	1,00,30,283

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
FIREWOOD AND CHARCOAL.				
Removed by Purchasers from Sale Depôts.				
Firewood ... ... Mds.	2,64,932	...		
Locomotive Fuel	...	8,81,862		
Charcoal ... ... Mds.	2,650	...		
Babul bark ... ... ,,	2,612	...		
Do. seed ... ... ,,	229	...		
Do. pods ... ... ,,	4	...		
			2,70,436	8,81,862
Sold Locally.				
Firewood ... ... Mds.	87,573	...		
Locomotive Fuel	...	85,35,966		
Charcoal ... ... Mds.	48,498	...		
Babul seed ... ... ,,	289	...		
Lai seed ... ... ,,	17	...		
Kandi seed ... ... ,,	2	...		
			1,36,379	85,35,966
Transferred to Forest Depôts.				
Firewood ... ... Mds.	100	...		
			100	.....
Transferred to other Sale Depôts.				
Babul bark ... ... Mds.	120	...		
			120	.....
WRITTEN OFF.				
Sale Depôts.				
Locomotive Fuel	...	1,720		
			...	1,720
Transferred to Sale Depôts.				
Firewood ... ... Mds	944	...		
Locomotive Fuel	...	2,18,520		
			944	2,18,520
Used by Department.				
Babul seed ... ... Mds.	56	...		
			56	.....
WRITTEN OFF.				
Forest Depôts.				
Locomotive Fuel	...	12,178		
Firewood ... ... Mds.	2,054	...		
Charcoal ... ... ,,	1,692	...		
Babul seed ... ... ,,	68	...		
			3,814	12,178
BALANCE AT CLOSE OF THE YEAR.				
Sukkur Division.				
Sale Depôts.				
Firewood ... ... Mds.	29,318	...		
Locomotive Fuel	...	26,990		
			29,318	26,990
Forest Depôts.				
Firewood ... ... Mds.	10,076	...		
Locomotive Fuel	...	15,037		
			10,076	15,037
Nausahro Division.				
Sale Depôts.				
Firewood ... ... Mds.	2,400	...		
Locomotive Fuel	...	...		
			2,400	.....
Forest Depôts.				
Firewood ... ... Mds.	5,628	...		
Locomotive Fuel	...	1,55,400		
Babul seed ... ... Mds.	8	...		
			5,636	1,55,400
Hyderabad Division.				
Sale Depôts.				
Firewood ... ... Mds.	27,411	...		
Locomotive Fuel	...	...		
Charcoal ... ... Mds.	170	...		
Babul bark ... ... ,,	2	...		
			27,583	.....
Forest Depôts.				
Firewood ... ... Mds.	9,221	...		
Locomotive Fuel	...	95,730		
Charcoal ... ... ,,	200	...		
			9,421	95,730
Jerruck Division.				
Sale Depôts.				
Firewood ... ... ,,	1,000	...		
Charcoal ... ... ,,	50	...		
			1,050	.....
Forest Depôts.				
Firewood ... ... Mds.	33,100	...		
Locomotive Fuel	...	85,980		
Charcoal ... ... Mds.	1,033	...		
Babul seed ... ... ,,	48	...		
			24,181	85,980
Total Firewood	...	...	5,31,514	1,00,30,283

Conservator's Office,
Hyderabad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

FORM No. 57.

Forest Department, Sind Circle.

Abstract showing the value of timber and other produce at Sale Depôts for the year 1890-91.

	Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.
Sukkur Division.	*Sale Depôts.*			Rs.			Rs.		
	Babul logs	602	3,247	1,623	...	...	...	...	...
	Bahan do.	391	3,473	1,736	119	782	391	...	...
	Tali logs	7	52	26	...	...	...	...	...
	Bahan and Babul dosas	473	1,602	349	18	70	35	...	...
	Do. posts	255	...	82	...	...	...	...	...
	Bahan do.	1,580	...	505	78	...	23	...	...
	Bahan rafters	8,751	...	1,225	10	...	1	...	...
	Babul cart axles	35	...	9	...	...	...	...	...
	Tali pieces	13	...	3	...	...	...	...	...
	Total	12,107	8,374	5,558	220	852	450	..	5,108
	Forest Depôts.								
	Babul posts	10	...	2	...	...	...	...	...
	Do. dasas	...	...	...	20	...	15	...	...
	Bhan posts	...	...	...	325	...	81	...	...
	Do. rafters	...	...	...	3,636	...	436	...	...
	Total	10	...	2	3,981	...	532	530	...
	Sale Depôts.								
	Firewood Mds.	40,481	...	7,286	29,318	...	5,277	...	...
	Locomotive fuel C. ft.	...	15,443	810	...	26,990	1,045	...	...
	Total	40,481	15,443	8,096	29,318	26,990	6,322	...	1,774
	Forest Depôts.								
	Firewood Mds.	11,745	...	1,409	10,076	...	1,209	...	...
	Locomotive fuel C. ft.	...	45,675	914	..	15,937	319	...	...
	Total	11,745	45,675	2,323	10,076	15,937	1,528	...	795
Naushahro Division.	*Sale Depôts.*								
	Babul sleepers	28	...	7	...	...	...	...	...
	Do. posts	591	...	96	282	...	45	..	...
	Do. rafters	2,161	...	219	7	...	1	...	...
	Do. logs	...	...	...	8	68	34	...	...
	Total	2,780	...	322	297	68	80	...	242
	Forest Depôts.								
	Babul logs	80	472	80	274	1,591	274	...	...
	Bahan do.	...	...	...	1	3	1	...	...
	Jhau logs	...	...	...	1	2	1	...	...
	Kandi long	...	...	...	1	4	1	...	...
	Total	80	472	80	277	1,600	277	197	...
	Sale Depôts.								
	Firewood Mds.	...	...	...	2,400	...	408	408	
	Forest Depôts.								
	Firewood Mds.	5,181	...	905	5,628	...	995		
	Locomotive fuel C. ft.	...	2,10,400	6,832	...	1,55,400	5,528		
	Babul seed Mds.	25	...	25	8	...			
	Total	5,206	2,10,400	7,762	5,636	1,55,400			

	Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.
Hyderabad Division.	*Sale Depôts.*			Rs.			Rs.		
	Babul logs	331	3,845	1,922	7	65	32	...	...
	Babul logs	1	...	1	1	...	1	...	...
	Bahan logs	20	242	121	1	7	3	...	...
	Babul dosas	...	...	...	...	...	...	...	...
	Bahan posts	1,250	...	500	4,075	...	1,630	...	...
	Bahan rafters	50,200	...	5,522	9,600	...	1,056	...	...
	Bahan dosas	25	...	25	275	...	275	...	...
	Jháu posts	...	...	...	100	...	8	...	...
	Babul slabs	17	...	4	17	...	4	...	...
	Babul planks	10	...	10	1	...	2	...	...
	Babul rafters	34	...	8	29	...	11	...	...
	Babul bolsters	73	344	344	8	38	16	...	...
	Kirir knees	40	...	3	...	...	...	...	...
	Kirir rafters	1	...	...	...	...	...	...	...
	Jháu rafters	1,400	...	70	800	...	42	...	...
	Total ...	53,402	4,431	8,530	14,914	110	3,080	...	5,450
	Forest Depôts.								
	Babul logs	8	...	6	...	...	...	...	...
	Babul sleepers	4	...	8	16	...	32	...	...
	Babul pieces	7	...	1	7	...	1	...	...
	Babul rafters	...	...	...	1,800	...	360	...	...
	Total ...	19	...	15	1,823	...	393	378	...
	Sale Depôts.								
	Firewood ... ... Mds.	32,169	...	5,790	27,411	...	4,934	...	...
	Locomotive fuel ... C. ft.	...	1,720	67	...	...	...	...	...
	Charcoal ... ... Mds.	678	...	380	170	...	95	...	...
	Babul bark	...	...	...	2	...	1	..	...
	Total ...	32,847	1,720	6,237	27,583	...	5,030	...	1,207
	Forest Depôts.								
	Firewood ... ... Mds.	5,200	...	520	9,221	...	922	...	...
	Locomotive fuel ... C. ft.	...	1,93,265	4,445	...	95,730	2,202	...	...
	Charcoal ... ... Mds.	...	...	...	200	...	70	...	...
	Total ...	5,200	1,93,265	4,965	9,421	95,730	3,194	...	1,771
Jerruck Division.	*Sale Depôts.*								
	Babul logs	63	665	998	2	22	33	...	965
	Forest Depôts.								
	Babul logs	314	3,764	471	17	34	2	...	469
	Sale Depôts.								
	Firewood ... ... Mds.	1,250	...	225	1,000	...	180	...	...
	Locomotive fuel ... C. ft.	...	...	...	...	...	...	...	...
	Charcoal ... ... Mds.	...	...	...	50	...	50	...	...
	Total ...	1,250	...	225	1,050	...	230	5	...
	Forest Depôts.								
	Firewood ... ... Mds.	47,474	...	5,697	33,100	...	3,972	...	...
	[illegible]ocomotive fuel ... C. ft.	...	4,61,525	10,642	...	85,980	1,836	...	...
	[illegible]rcoal ... ... Mds.	4,641	...	1,671	1,033	...	372	...	...
	[illegible]eed ... ... Mds.	240	...	120	48	...	24	...	...
	Total ...	52,355	4,61,525	18,130	34,181	85,980	6,204	...	11,926

[illegible]21.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

ANNUAL FORM No. 58.

Forest Department, Bombay, Sind Circle.

Summary of Revenue and Expenditure of the different Divisions during the year 1890-91.

BUDGET HEADS.	Direction.	Hyderabad Division.	Jerruck Division.	Naushahara Division.	Sukkur Division.	Total during 1890-91.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
REVENUE.						
I. Timber and other Produce removed from the Forests by Government Agency—						
a. Timber	.....	27,815 15 6	28,889 0 7	1,020 9 8	12,101 9 10	69,827 3 7
b. Firewood and Charcoal	.....	96,410 6 0	72,852 9 11	92,129 1 6	1,93,851 8 2	4,55,243 9 7
c. Bamboos	.....	.....	.....	.....	.....	.....
d. Sandalwood	.....	.....	.....	.....	.....	.....
e. Grass and other minor produce	.....	841 0 6	168 2 11	.....	162 7 1	1,171 10 6
II. Timber and other Produce removed from the Forests by Consumers or Purchasers—						
a. Timber	.....	1,547 2 5	766 8 3	701 8 7	5,938 13 5	8,954 0 8
b. Firewood and Charcoal	.....	3,876 7 2	320 6 8	3,427 0 6	22,171 8 0	29,795 6 4
c. Bamboos	.....	.....	.....	.....	.....	.....
d. Grazing and Fodder Grass	.....	16,697 6 0	14,046 3 0	9,747 15 0	16,382 10 11	56,875 2 11
e. Other minor produce	.....	12,741 0 5	5,485 9 1	3,876 14 1	1,720 13 3	21,824 4 10
III. Confiscated, Drift and Waif Wood	.....	28 4 0	.....	14 12 0	27 3 3	70 3 3
IV. Revenue from Forests not managed by Government—						
a. Duty on Foreign Timber and other forest produce	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests	.....	.....	.....	.....	.....	.....
V. Miscellaneous—						
a. Fines and forfeitures	.....	.....	.....	125 0 0	100 0 0	225 0 0
b. Refunds	.....	.....	.....	.....	40 4 10	40 4 10
c. Other sources	.....	4,793 6 11	3,363 13 10	13,351 2 10	15,357 0 3	36,865 7 10
Total Revenue	.....	1,64,751 0 11	1,23,892 6 3	1,24,394 0 2	2,67,854 15 0	6,80,892 6 4
EXPENDITURE.						
A. Conservancy and Works.						
I. Timber and other Produce removed from the Forests by Government Agency—						
a. Timber	.....	9,971 11 10	20,961 0 9	228 7 11	2,629 4 1	33,790 8 7
b. Firewood and Charcoal	.....	58,074 14 0	41,848 6 3	55,766 14 1	1,19,040 9 3	2,74,730 11 7
c. Bamboos	.....	.....	.....	.....	.....	.....
d. Sandalwood	.....	.....	.....	.....	.....	.....
e. Grass and other minor produce	.....	728 13 8	333 6 7	33 7 6	0 8 0	1,096 3 9
II. Timber and other Produce removed from the Forests by Consumers or Purchasers	.....	.....	158 2 8	170 12 10	1 1 6	330 2 0
III. Confiscated, Drift and Waif Wood	.....	2 0 0	.....	.....	0 7 2	2 7 2
IV. Revenue from Forests not managed by Government—						
a. Duty on Foreign Timber and other forest produce	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests	.....	.....	.....	.....	.....	.....
V. Rent of Leased Forests and Payments to Shareholders in Forests managed by Government	.....	.....	.....	.....	.....	.....
VI. Live Stock, Stores, Tools and Plant—						
a. Purchase of Cattle	.....	100 0 0	16 0 0	.....	.....	116 0 0
b. Feed and keep of Cattle	.....	.....	6 7 6	.....	69 12 0	76 3 6
c. Stores, Tools and Plant	.....	994 9 2	24 2 0	3 6 0	5 3 10	1,027 5 0
VII. Communications and Buildings—						
a. Roads and Bridges	.....	.....	.....	.....	.....	.....
b. Buildings	.....	227 14 6	67 13 0	250 0 0	150 8 6	696 3 6
c. Other Works	.....	.....	.....	.....	3 11 0	3 11 0
VIII. Demarcation, Improvement and Extension of Forests—						
a. Demarcation	.....	.....	.....	.....	.....	.....
b. Compensation for Land and Rights	.....	.....	.....	.....	.....	.....
c. Surveys and Working Plans	.....	991 12 9	1,380 0 6	586 5 0	1,124 9 0	4,082 11 3
d. Plantations	.....	940 10 2	455 13 0	.....	1,705 14 8	3,102 5 10
e. Protection from Fire	.....	.....	.....	.....	.....	.....
f. Other Works	.....	1,385 6 11	357 3 10	554 4 3	8 13 0	2,305 12 6
IX. Miscellaneous—						
a. Refunds	.....	.....	.....	.....	.....	.....
b. Law Charges	.....	.....	.....	.....	.....	.....
c. Other Charges	.....	7 9 0	105 0 0	.....	162 4 2	274 13 2
Total, A. Conservancy and Works	.....	73,425 6 0	65,713 8 1	57,593 10 7	1,24,902 9 8	3,21,635 2 4
B. ESTABLISHMENTS.						
I. Salaries—						
a. Conservators	12,579 14 3	.....	.....	.....	80 0 0	12,659 14 3
b. Superior Officers	.....	2,244 2 8	2,460 0 0	1,800 0 0	5,713 5 7	12,157 8 3
c. Subordinate Forest and Depôt Establishments.	.....	8,797 7 2	6,925 6 8	7,524 11 0	15,648 11 9	37,996 4 7
d. Office Establishments	3,528 0 0	1,521 15 0	1,342 11 0	1,346 11 6	1,735 7 4	9,484 12 10
e. Deputation and Special Allowances	243 5 4	.....	.....	.....	.....	243 5 4
II. Travelling Allowances—						
a. Conservators	2,369 13 7	.....	.....	.....	20 0 0	2,389 13 7
b. Superior Officers	44 12 0	1,215 8 9	1,220 9 11	1,257 9 9	1,891 4 11	5,629 13 4
c. Subordinate Forest and Depôt Establishments.	.....	742 7 11	538 8 7	637 2 10	1,123 9 8	3,041 13 0
d. Office Establishments	1,227 9 10	578 10 5	434 11 1	457 15 11	762 12 6	3,461 11 9
III. Contingencies—						
a. Stationery	2 2 0	78 6 0	64 14 4	86 2 0	177 11 8	409 [illegible]
b. Carriage of Tents and Records	178 1 0	119 6 5	129 7 6	119 10 8	105 11 6	652 [illegible]
c. Rents, Rates and Taxes	293 8 9	240 0 0	255 0 0	240 0 0	153 0 0	1,1[illegible]
d. Pay of Police Guards	.....	.....	.....	.....	.....	[illegible]
e. Official Postage	91 11 6	122 8 0	163 15 6	267 1 0	404 2 0	[illegible]
f. Sundries	266 14 1	287 11 3	182 8 3	221 11 3	248 8 [illegible]	[illegible]
Total, B. Establishments	20,825 12 4	15,958 3 7	12,758 12 10	13,958 11 11	28,06[illegible]	[illegible]
Grand Total of Expenditure	20,825 12 4	89,383 9 7	78,472 4 11	71,552 6 6	1,[illegible]	[illegible]

No. $\frac{F}{14880}$.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the [illegible]

Bombay,
8th August 1891.

Of[illegible]

FORM No. 59.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Account Current for the year 1890-91.

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
Balance	.....	59 6 1	By Refunds and Drawbacks	.....	306 12 4
I.—Assessed Taxes—Income tax ...	.....	833 12 1	„ Refunds Divided Heads, Forests—		
X.—Forests	.....	6,80,892 6 4	11 Forests	.....	4,13,200 15 11
XXII.—Receipts in aid of superannuation—			„ 19 Law and Justice—		
Subscription to the Military Fund ..	.....	69 0 0	Jails—		
„ Revenue Deposits, Forests	.....	2,198 0 3	District Jails—		
			Contingencies, Miscellaneous Office expenses, District Jails	.....	604 2 3
„ Advances Recoverable—			„ Revenue Deposits	.....	2,179 8 3
Forest advances	.....	1,66,431 3 0	„ Advances Recoverable—		
			Forest advances	.....	1,66,650 14 10
„ Cash recoveries	.....	36 4 7	„ Cash Recoveries...	.....	36 4 7
			„ Cheques and Bills—		
„ Cheques and Bills, Departmental Cheques—			(Departmental Cheques)—		
Forests	.....	4,18,671 3 11	Forest	.....	2,402 14 9
			Forest Remittances—		
„ Forest Remittances—			Remittances to Treasuries	3,10,048 1 4	
Remittances to Treasuries...	.....	1 0 0	Inter-Divisional Transfers	26,059 11 1	
„ Inter-Divisional Transfers	.....	26,303 0 5	Inter-Departmental Transfers	5 0 0	3,36,112 12 5
Account between Bombay and Public Works Department—			Account between Bombay and Military, Bombay—		
			IV.—Items adjustable by Military, Miscellaneous	.....	34,996 15 10
Ordinary Branches—			Account between Bombay and P. W. D.		
			Ordinary Branches—		
IV.—Items adjustable by P. W. D....	.....	264 0 0	IV.—Items adjustable by P. W. D.		
			Inter-Departmental charges ...	.....	1,130 0 7
Account between Bombay and P. W. D. (Railway Branches)—			By Account between Bombay and P. W. D. (Railway Branches)—		
			IV.—Items adjustable by P. W. D		
IV.—Items adjustable by P. W. D.			(N.-W. Railway)	.....	3,37,775 5 7
(N.-W. Railway)	.....	.....	Account between Bombay and Punjáb ...	.....	272 7 0
			Cash Balances	.....	90 2 4
Grand Total ...	.. ...	12,95,759 4 8	Grand Total ..	.. ...	12,95,759 4 8

No. $\frac{F.}{14889}$.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Code.

Accountant General's Office,
Bombay, 8th August 1891.

G. H. R. HART,
Officiating Accountant General.

ANNUAL FORM No. 60.

1287—10

ANNUAL FORM No. 60.

Forest Department, Bombay, Sind Circle.

Revenue received and Outstandings on account of Revenue during 1890-91.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sukkur ...	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	.....	12,101 9 10	12,101 9 10	12,101 9 10	.....	
	(b) Firewood and charcoal	*70 12 0	1,94,033 12 2	1,94,104 8 2	1,93,851 8 2	253 0 0	*Rs. 57-0-0 written off.
	(e) Grass and other minor produce ...	.....	162 7 1	162 7 1	162 7 1	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	.....	5,938 13 5	5,938 13 5	5,938 13 5	.....	
	(b) Firewood and charcoal	†46 10 8	22,124 13 4	22,171 8 0	22,171 8 0	.....	†Rs. 46-10-8 written off.
	(d) Grazing and fodder grass	.....	16,383 10 11	16,383 10 11	16,383 10 11	.....	
	(e) Other minor produce	.....	1,720 13 3	1,720 13 3	1,720 13 3	.....	
	III.—Confiscated, drift and waif wood ...	.....	27 3 3	27 3 3	27 3 3	.....	
	Total ...	117 6 8	2,52,493 3 3	2,52,610 9 11	2,52,357 9 11	253 0 0	
Naushahro ...	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	.....	1,020 9 8	1,020 9 8	1,020 9 8	.....	The outstandings under V. C. at the end of the year amounted to Rs. 18-12-4.
	(b) Firewood and charcoal	12 0 0	92,117 1 6	92,129 1 6	92,129 1 6	.....	
	(e) Grass and other minor produce ...	.....	.....	.....	.....	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	.....	701 8 7	701 8 7	701 8 7	.....	
	(b) Firewood and charcoal	.....	3,427 0 6	3,427 0 6	3,427 0 6	.....	
	(d) Grazing and fodder grass	.....	9,747 15 0	9,747 15 0	9,747 15 0	.....	
	(e) Other minor produce...	.....	3,876 14 1	3,876 14 1	3,876 14 1	.....	
	III.—Confiscated, drift and waif wood ...	.....	14 12 0	14 12 0	14 12 0	.....	
	Total ...	12 0 0	1,10,905 13 4	1,10,917 13 4	1,10,917 13 4	.....	

Hyderabad ...	I.—Timber and other produce removed from the forests by Government agency—													
	(a) Timber	.....			28,090	15	6	28,090	15	6	27,815	15	6	275 0 0
	(b) Firewood and charcoal	630	0	0	96,908	6	5	97,538	6	5	96,410	6	0	1,128 0 5
	(e) Grass and other minor produce ...	.....			841	0	6	841	0	6	841	0	6	.....
	II.—Timber and other produce removed from the forests by consumers or purchasers—													
	(a) Timber	.....			1,547	2	5	1,547	2	5	1,547	2	5	.....
	(b) Firewood and charcoal	.....			3,876	7	2	3,876	7	2	3,876	7	2	.....
	(d) Grazing and fodder grass	.....			16,697	6	0	16,697	6	0	16,697	6	0	.....
	(e) Other minor produce...	.....			12,741	0	5	12,741	0	5	12,741	0	5	.....
	III.—Confiscated, drift and waif wood ...	.....			28	4	0	28	4	0	28	4	0	.....
	Total ...	630	0	0	1,60,730	10	5	1,61,360	10	5	1,59,957	10	0	1,403 0 5
Jerruck ...	I.—Timber and other produce removed from the forests by Government agency—													
	(a) Timber	4,982	11	2	23,906	5	5	28,889	0	7	28,889	0	7	.....
	(b) Firewood and charcoal	5,004	4	2	68,104	1	9	73,108	5	11	72,852	9	11	255 12 0
	(e) Grass and other minor produce ...	.....			168	2	11	168	2	11	168	2	11	.....
	II.—Timber and other produce removed from the forests by consumers or purchasers—													
	(a) Timber	.....			799	7	6	799	7	6	766	8	3	32 15 3
	(b) Firewood and charcoal	.....			320	6	8	320	6	8	320	6	8	.....
	(d) Grazing and fodder grass	3	4	0	14,046	3	0	14,049	7	0	14,046	3	0	3 4 0
	(e) Other minor produce	.....			3,485	9	1	3,485	9	1	3,485	9	1	.....
	Total ...	9,990	3	4	1,10,830	4	4	1,20,820	7	8	1,20,528	8	5	291 15 3
Total, Sind Circle.	I.—Timber and other produce removed from the forests by Government agency—													
	(a) Timber	4,982	11	2	65,119	8	5	70,102	3	7	69,827	3	7	275 0 0
	(b) Firewood and charcoal	*5,717	0	2	4,51,163	5	10	4,56,880	6	0	4,55,243	9	7	1,636 12 5
	(e) Grass and other minor produce ...	.....			1,171	10	6	1,171	10	6	1,171	10	6	.....
	II.—Timber and other produce removed from the forests by consumers or purchasers—													
	(a) Timber	.....			8,986	15	11	8,986	15	11	8,954	0	8	32 15 3
	(b) Firewood and charcoal	†46	10	8	29,748	11	8	29,795	6	4	29,795	6	4	.....
	(d) Grazing and fodder grass	3	4	0	56,875	2	11	56,878	6	11	56,875	2	11	3 4 0
	(e) Other minor produce	.....			21,824	4	10	21,824	4	10	21,824	4	10	.....
	III.—Confiscated, drift and waif wood ...	.....			70	3	3	70	3	3	70	3	3	.....
	Grand Total ...	10,749	10	0	6,34,959	15	4	6,45,709	9	4	6,43,761	9	8	1,947 15 8

* Rs. 57-0-0 written off.

† Rs. 46-10-8 written off.

The outstanding under V. C. at the end of the year amounted to Rs. 18-12-4.

Conservator's Office,
d, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers for 1890-91.

Divisions.	Department Debtor.			Department Creditor.			Balance due		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (Outstandings).	To Department (Liabilities).	
Contractors.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		
Hyderabad	.....	12,000 0 0	12,000 0 0	.....	12,000 0 0	12,000 0 0	.....	.....	
Jerruck	.....	25,252 0 0	25,252 0 0	9,460 0 0	27,840 0 0	37,300 0 0	12,048 0 0	.....	
Naushahro	.....	.....	.....	.....	.....	.....	.....	.....	
Sukkur	.....	4,076 10 0	4,076 10 0	76 10 0	4,000 0 0	4,076 10 0	.....	.....	
Total, Contractors ...	.....	41,328 10 0	41,328 10 0	9,536 10 0	43,840 0 0	53,376 10 0	12,048 0 0	.....	
Disbursers.									
Hyderabad	.....	40,137 6 9	40,137 6 9	1,915 5 3	40,252 4 11	42,167 10 2	2,030 3 5	.....	
Jerruck	.....	27,512 8 9	27,512 8 9	571 5 6	30,214 12 5	30,786 1 11	3,273 9 2	.....	
Naushahro	470 15 7	46,178 12 7	46,178 12 7	5,451 7 3	41,888 11 9	46,869 3 5	690 6 10	.....	
Sukkur	.....	11,273 12 11	11,273 12 11	1,717 15 5	10,455 1 9	12,173 1 2	899 4 3	.....	
Total, Disbursers ..	470 15 7	1,25,102 9 0	1,25,102 9 0	9,656 1 5	1,22,810 14 10	1,31,996 0 8	6,893 7 8	.....	
GRAND TOTAL ...	470 15 7	1,66,431 3 0	1,66,431 3 0	19,192 11 5	1,66,650 14 10	1,85,372 10 8	18,941 7 8	.....	

No. $\frac{F.}{14891.}$

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 8th August 1891.

G. H. R. HART,
Officiating Accountant General, Bombay.

ANNUAL FORM No. 62.

Forest Department, Sind Circle.

Financial Results of the year 1890-91.

Division.	Timber and other produce removed from the Forests by Government Agency.		Other Revenue.		Formation, protection and improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Sukkur	2,06,116	1,33,843	61,739	12,301	15,016	2,67,855	1,61,160	
Naushahro	93,150	62,033	31,244	6,178	7,146	1,24,394	75,357	
Hyderabad	1,25,067	76,396	39,684	7,085	10,941	1,64,751	94,422	
Jerruck	1,01,910	68,704	21,982	5,802	7,756	1,23,892	82,262	
Total ...	5,26,243	3,40,976	1,54,649	31,366	40,859	6,80,892	4,13,201	

Statement showing the progress of Forest Demarcation and Settlement Work in the Sind Circle for 1890-91.

Class of Forest.	At the commencement of the year. Area under Section 34 in which private rights have not been enquired into, settled and recorded.	Area settled during the year under		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year. Areas under Section 34 in which private rights have not been enquired into, settled and recorded.
		Chapter II of the Act.	Chapter IV of the Act.			
	Square miles.	Square miles.	Square miles.	Square miles.	Square miles.	Square miles.
...rved Forests	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
...ted Forests						

...Conservator's Office,
...ad, 11th October 1891.

W. S. HEXTON,
Conservator of Forests, Sind Circle.

No. 5259 of 1891.

Revenue Department.

Commissioner's Office,
Karáchi, 20th November 1891.

Submitted to Government.

2. The year's record is a good one so far as results go. The net revenue amounted to Rs. 2,67,691, the largest yet obtained. Compared with the area under Forest the revenue per acre is the largest in any Division.

	Area.	Net revenue.	Revenue per acre.
Sind	6,34,569	2,67,691	0 6 9
Northern Division	55,04,597	4,80,183	0 1 5
Southern „	34,47,788	6,75,333	0 3 3

The season was favourable as far as riverain forests were concerned. Mr. Hexton repeats his complaints about the perishing inland forests, but he says nothing as to the steps which he was ordered in Government Resolution No. 1699 of 13th March 1891 to take for disforesting. The orders, however, reached him only at the end of the year, and he should now take early steps to carry them out.

3. In connection with a report on the wood supply for Baluchistan, figures have recently been supplied by the Conservator which show that the riverain forests in Upper Sind are being much overworked. The Commissioner is taking steps to have large additional areas of alluvial and other waste on the banks of the Indus, especially between the Kashmor bund and the river taken up for forest purposes. The Conservator when speaking of the mystery which overhangs the truth as to the area of the forests, suggests (para. 15) that before surveying them at a cost of ½ a lákh, the irrigation of inland forests should be undertaken. The Commissioner does not agree with him. Irrigated land should pay Rs. 3 and Rs. 4 an acre, which forests never will. The Conservator's attention should be devoted to securing areas naturally irrigated from the river, and he should give up inland forests, when not so irrigated, for cultivation.

4. It is unsatisfactory to learn that although 34,499 acres were surveyed during the year the work is untrustworthy. Mr. Hexton should state what measures he will take for rectifying what looks like a waste of money, and what object the surveyors now fulfil.

5. The Assistant Collectors, owing to whose apparent dilatoriness the settlement of 15,757 acres, notified several years ago, is still pending, will be instructed to finish the work.

6. The Commissioner has forwarded to Government the notifications for 1,29,077 acres of reserved forest in the Thar and Párkar District. Mr. James would for the present keep those forests entirely under the Deputy Commissioner, leaving the Conservator to devote himself to his more important work on the river. All the trained strength that Government can spare should be devoted to that.

7. The Commissioner trusts that besides Mr. Ryan, at least one English trained recruit will be sent to Sind. Some of the Divisional Forest Officers are known to Government as not efficient at the present day, and arrangements will be made for replacing them for good men from the Presidency. The Commissioner is glad that Mr. Hexton is striving vigorously to get men sent to Poona for training. The department wants much new blood. It has become a preserve of Amils, there being only one Mahomedan, and that very low down the scale, and Mahomedans are pre-eminently fitted for forest work, if looked after. Mr. Hexton is only now talking of hedging in areas for the protection of young growth. Reproduction is very quick in Sind, so the closed areas can soon be thrown open again. But seeing that the forests are being exhausted so rapidly, special care should have been taken before to attend to their reproduction. Again, vast quantities of bábul timber, after the branches have been taken away for firewood, are left to rot; some means should be taken, if possible, for utilizing these, and the Commissioner would like to see the forest depôts at central places replaced or supplemented gradually by private timber-yards. It almost

stands to reason that the Department cannot cut and convey the timber to market so cheaply as a private merchant. The area divided during the year into compartments was 35,692 acres, making the total sub-divided area 4,48,592 acres with 1,84,224 undivided. It is not quite satisfactory to hear that these compartments will be useful when the department "begins to work on a systematic scale." It should have had that end in view for many years past. The survey of forests is, however, not pressing, and can wait till a proper survey of the river has been made and kept up to date in the Public Works Department.

8. No special experiments this year are reported. Form No. 52 shows that plantations have increased in area from 11,398 to 14,748 acres; but from the remarks under Section VI, Chapter III, the Commissioner understands that the areas are not artificially sown; so the increase under the head "plantations" would seem a misnomer. In fact, no sowing would seem to have been undertaken. On the other hand, the area of cultivation allowed in forests has risen slightly, and the revenue from Rs. 29,996 to Rs. 30,324. Steps, said the Conservator last year, were being taken to limit the area, but they seem to have been ineffectual as yet. The Conservator should fix a period for each block and reduce the area annually till all is under forest, even if he suffers loss of revenue by it.

9. Grazing, according to the Conservator, is becoming a serious question, and he thinks that privileges are being abused. The Collector of Shikárpur in his annual report stated that, on the contrary, the Forest Department is abusing privileges. The Commissioner has instituted enquiries into the matter.

10. For the time being, the Commissioner has authorised the Conservator to work certain jungles not in forest limits, as if they were forests, and the orders of Government will be obtained shortly as to the crediting of the revenue. The arrangement is needed, because the supply of firewood to the railway must be kept up.

11. The case of the zamindár referred to in para. 27 was disposed of by the Magistrate in an unsatisfactory way. He discharged the zamindár on what the Commissioner can only consider inadequate grounds. The Sadar Court has ordered a new trial.

12. In the matter of prosecution and compounding of cases, the Commissioner is glad to say that he believes the officers of the department have acted with judgment and discretion. He has learnt of no complaints.

13. The Conservator complains of decrease in the cost of his establishment and desires more. But he should ask for this separately, stating exactly what he requires Good capable Sub-divisional Officers and trained Rangers seem needed rather than additional hands. But the Commissioner can form no opinion till the Conservator makes a detailed representation.

14. A sum of Rs. 18,941 was outstanding at the close of the year. The Commissioner hopes that this will be duly recovered. The details of Rs. 36,865 realised from Miscellanous under Other Sources should have been given in the body of the report.

15. Mr. Hexton knows and takes great interest in his work, and has, the Commissioner believes, got it well in hand, but he is badly off in the matter of his staff. The Commissioner hopes that he will receive skilled aid and soon get the forests into a systematic plan of working, and add to their area a sufficient extent of land to keep abreast of the cutting that is going on. As traffic on the railway improves so will the drain on the forests, and no time should be lost in bringing the source of supply equal to the anticipated, not to speak of the present, demand. The forests south of Kotri should yield larger supplies and revenue, but in the absence of a railway from Tatta to Jungshai, this source of supply can only be partially utilised.

16. The Commissioner regrets that owing to delay in printing these remarks have been delayed.

H. E. M. JAMES,
Acting Commissioner in Sind.

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Forest Administration Reports of the Bombay Presidency, including Sind, for the year 1890-91.—Certain questions regarding procedure under the Forest Act.

No. 7232 of 1892.

REVENUE DEPARTMENT.

Bombay Castle, 12th September 1892.

Letter from the Conservator of Forests, N. C., No. 4291, dated 30th October 1891—Forwarding the Forest Administration Report of the Northern Circle for the year 1890-91 with its subsidiary statements.

Memoranda from the Commissioners, N. D. and C. D., Nos. 4974 and R.—5593, dated respectively the 23rd and 29th December 1891—Submitting the above with their remarks.

Letter from the Conservator of Forests, S. C., No. 3174, dated 16th October 1891—Forwarding the Forest Administration Report of the Southern Circle for the year 1890-91, with its subsidiary statements.

Memorandum from the Commissioner, S. D., No. 4813, dated 8th December 1891—Submitting the above with his remarks.

Letter from the Conservator of Forests, Sind Circle, No. 1111, dated 11th October 1891—Forwarding the Forest Administration Report of the Sind Circle for the year 1890-91, with its subsidiary statements.

Memorandum from the Commissioner in Sind, No. 5259, dated 20th November 1891—Submitting the above with his remarks.

Letter from the Conservator of Forests, S. C., No. 2637, dated 12th September 1891.
Memorandum from the Commissioner, S D., No. 3594, dated 15th September 1891.
Letter from the Conservator of Forests, N. C., No. 4390, dated 7th November 1891.
Memorandum from the Commissioner, N. D., No. 4474, dated 9th November 1891.
Letter from the Conservator of Forests, N. C., No. 4391, dated 7th November 1891.
Memorandum from the Commissioner, C. D., No. $\frac{R}{5031}$, dated 16th November 1891.
Letter from the Conservator of Forests, Sind Circle, No. 864, dated 8th September 1891.
Memorandum from the Commissioner in Sind, No. 5553, dated 17th December 1891.

} Forwarding the reports called for in paragraph 2 of Government Resolution No. 5905, dated 29th August 1891, regarding the practice as to the recovery of the amount of compensation settled under section 67 of the Indian Forest Act, prevailing in the several Forest Divisions.

Letter from the Commissioner, S. D., No. 2423, dated 25th June 1891.
Memorandum from the Commissioner, S. D., No. 2595, dated 7th July 1891.
Letter from the Commissioner, N. D., No. 2857, dated 23rd July 1891.
Memorandum from the Commissioner in Sind, No. 4002, dated 28th October 1891.
Letter from the Commissioner, C. D., No. $\frac{R}{1130}$, dated 9th March 1892.
Letter from the Commissioner, C. D., No. R—1579, dated 11th April 1892.

} Submitting the reports called for in paragraph 11 of Government Resolution No. 1899, dated 13th March 1891, on the method and proceedings of Forest Officers, empowered under section 67 of the Indian Forest Act; and making remarks.

RESOLUTION.—The forest area at the beginning and end of the year under review is shown in the following table :—

Circle.	Area on 1st April 1890.		Added.		Excluded.		Area on 31st March 1891.		Total
	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	
	Sq. Miles.	Sq. Miles.	Sq. Miles.	Sq. Miles.	Sq. Miles.	Sq. Miles.	Sq. Miles.	Sq. Miles.	Sq Miles
Northern Circle	$7,201\frac{366}{640}$	$1,072\frac{185}{640}$	$114\frac{291}{640}$	..	$28\frac{139}{640}$	$77\frac{374}{640}$	$7,390\frac{618}{640}$	$994\frac{451}{640}$	$8,385\frac{429}{640}$
Southern Circle	$1,819\frac{175}{640}$	$3,411\frac{413}{640}$	$72\frac{209}{640}$	$\frac{33}{640}$	$3\frac{377}{640}$	$88\frac{507}{640}$	$1,888\frac{7}{640}$	$3,322\frac{379}{640}$	$5,210\frac{[illegible]}{640}$
Sind Circle ..	$991\frac{324}{640}$	$1\frac{245}{640}$	$\frac{13}{640}$		$\frac{125}{640}$	...	$991\frac{212}{640}$	$1\frac{245}{640}$	$992\frac{457}{640}$
Total ...	$10,012\frac{225}{640}$	$4,485\frac{203}{640}$	$186\frac{611}{640}$	$\frac{33}{640}$	$29\frac{1}{640}$	$166\frac{241}{640}$	$10,170\frac{197}{640}$	$14,318\frac{635}{640}$	

Owing to mistakes in the old surveys of Thána, Khándesh, Ahmednagar and Sátára, which have been rectified at the revision survey, the nominal area of the forests of the Northern Circle has decreased by over 327 square miles, and in the statement above the corrected figures of the area on the 1st April 1890 are given. There was an actual net increase in reserved forest of 89 square miles 252 acres, and a decrease in protected forest of 77 square miles 374 acres in this Circle. In the Southern Circle an increase in the reserved forest is due to the final settlement of certain tálukas in Kánara and Kolába. The Conservator should have given some explanation of the reduction in the protected area in Kolába and of the non-inclusion in the table in paragraph 1 of the protected forests in Bijápur, shown in paragraph 13, which have apparently been notified under section 34 of the Act. The changes in Sind call for no particular remark as the figures are almost identical with those of last year. It is observed, however, that about 13 square miles of forest have been swept away by the Indus. Government have been compelled to postpone for the present the revised survey of forests in Sind, and all that can be done is to give estimates, as accurate as is possible, of the variations every year. Information should also be given as to what steps, if any, it is proposed to take to legally constitute as forest the land entered as "gained" by the action of the river.

2. The views of the Commissioner in Sind as to the disforestment of inland tracts, which can only be made productive by costly irrigation, are receiving separate consideration.

3. The subjoined table shows the progress made in the settlement of old forest notified under section 34 :—

Circle.	Class of Forests.	At the commencement of the year. Areas under sec. 34 in which private rights have not been enquired into, settled or recorded.	Areas settled during the year.		Area of Reserved Forests alienated under sec. 26.	Area of Protected Forests disforested under Government orders.	At the end of the year. Areas under sec. 34 in which private rights have not been enquired into, settled or recorded.
			Under Chap. II of the Forest Act.	Under Chap. IV of the Forest Act.			
		Sqr. m.	Sqr. m.	Sqr. m.	Sqr. m.	Sqr. m.	Sqr. m.
Northern Circle ...	Reserved ...	860	39	...	1	...	820
	Protected ...	567	...	1	...	6	560
Southern Circle ...	Reserved ...	$509\frac{621}{640}$	$125\frac{288}{640}$	...	$3\frac{258}{640}$	...	$381\frac{75}{640}$
	Protected ...	$2,496\frac{612}{640}$	$20\frac{471}{640}$	$11\frac{225}{640}$	...	$5\frac{520}{640}$	$2,459\frac{36}{640}$
Sind Circle... ...	Reserved ...	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
	Protected ...	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
Total ...	Reserved ...	$1,369\frac{621}{640}$	$164\frac{288}{640}$	...	$4\frac{258}{640}$	...	$1,201\frac{75}{640}$
	Protected ...	$3,063\frac{612}{640}$	$20\frac{471}{640}$	$12\frac{225}{640}$	...	$11\frac{520}{640}$	$3,019\frac{36}{640}$

The only districts in which settlements were effected were Thána and Kolába. It seems, however, that the figures in the last column of the statement represent in many cases areas in which settlement proceedings have been already recorded, but the sanction of Government has not been conveyed. Considerable progress was made in the Northern Circle in proceedings under sections 4, 19 and 28 of the Act. It is hoped that the report for Máhim will be submitted at an early date : it is not clear why the work in that táluka was stopped without a report being made to Government on the point referred to by the Conservator. In the Southern Circle work is still much in arrears, but the appointment of an officer exclusively for demarcation and settlement work in Kánara will doubtless cause improved results. The suggestion, that when no rights are admitted, an entry to that effect should be made in the forest register, is approved and should be acted on.

4. Satisfactory progress appears to have been made by the Forest Survey ties in both Circles in the Presidency proper. The cost per mile in the ern Circle was again very low, and is returned by the Conservator at Rs. 83 " scale and Rs. 71 for the 4" scale. In the Northern Circle the figures

are for the 4″, 8″, and 16″ scales Rs. 110, 173 and 185, respectively, the first of these showing a large increase over last year's cost, which is partly attributed to the inclusion of arrears of mapping. The very large difference in the rates for the two Circles has not however been fully explained, and the statement that in the Southern Circle every sub-surveyor showed a large outturn of work does not throw much light on the matter. With reference to paragraph 76 of his report, the Conservator, Northern Circle, should be informed that the principles guiding the selection of scales for forest maps have been laid down in Government Resolution No. 11 of the 3rd January 1889, and that Government see no reason to alter the views therein expressed. Government concur in Mr. James's remarks as to the work of the two surveyors in Sind. It is obviously waste of money to employ men whose work is liable to be afterwards discarded as valueless, and the Commissioner should report what steps have been taken to have their work properly tested.

5. The system which has been adopted in the preparation of working plans has already been fully discussed and need not be further noticed here. The orders of Government as to the cutting of compartments when due should be carefully complied with; in the absence of specific orders to this effect, in the year under review, this course was not followed. It is clear that an exact record of the yield of each coupe cannot be profitably kept, in view of the large additional establishment that would be required. The measures referred to in paragraph 88 of Mr. Shuttleworth's report, should, if carefully watched, produce good results. The amount of work done in Thána by the working plans branch was not equal to that of last year, and the falling off should have been explained. The Conservator, Northern Circle, has gone into very unnecessary detail and at great length in Chapter III on the subject of 'Establishment' and has recorded much matter which is not required in an Administration Report.

6. As far as can be judged by the figures, the working plans branches in Kánara did good work, but the information given by the Conservator is very meagre. The construction of a tramway from Haliyál to Shiroli has been abandoned, as the gradients were found to be impracticable.

7. The figures given in these reports as regards (*a*) prosecutions for forest offences, (*b*) cases dealt with under section 67 of the Forest Act and the amounts of compensation paid, and (*c*) the numbers of cattle impounded by the Forest Department, call for very careful examination and consideration.

8. In Government Resolution No. 5730, dated 28th October 1880, orders were passed, as follows, on a reference from the District Magistrate of Ahmednagar forwarding a copy of a Resolution of the High Court, which condemned the practice of bringing before the Courts complaints of *trivial offences* against the forest laws and at the same time directed that Magistrates should dismiss such complaints under section 95 of the Penal Code :—

"It is in the opinion of His Excellency the Governor in Council most undesirable that ignorant villagers should be prosecuted in the Criminal Courts for taking from the Government forests a few twigs, or small branches, or a little brushwood of inappreciable value. Such injudicious severity on the part of the officers of the Forest Department is calculated to do more harm than good, and to excite widespread dissatisfaction and angry feeling. In no instance, at all events, should a person be prosecuted for a first offence of so exceedingly trivial a nature. A mere warning on the part of the Forest officer would suffice. But if after being detected and warned once or twice the same person is again discovered cutting Government trees, the circumstances of the case would be altered, and wilful and repeated infractions of the law may form a suitable and proper ground for criminal prosecution. As far as possible, however, such prosecutions should be avoided, and recourse should only be had to them when real injury is being caused to the Government forests, and when there is good reason to believe that the offender is deliberately and of set purpose transgressing the law. The Conservator, N. C., should be directed to impress on all his subordinates the necessity for the exercise in the matter of prosecutions of more discretion and judgment than some at least of them would appear hitherto to have shown.

"A copy of this Resolution should be sent to the Judicial Department and be circulated throughout the Presidency among the Magistracy and Police."

Those orders were reaffirmed in Government Resolution No. 61, dated 6th January 1883, and are still in force.

9. As regards prosecutions in the Criminal Courts, the above orders seem to have been carried out indifferently well, though it may be inferred from remarks made by the Conservator of Forests, S. C., in paragraphs 32 and 37 of his Administration Report for 1890-91, complaining of the action of the Magistrates in Belgaum and Kánara in dismissing several complaints of forest offences *as trivial* (under section 95 of the Penal Code), that even in the Southern Circle, where the forest administration has been (as will be seen from what follows) much more lenient than in the Northern Circle, there is still room for the exercise of more careful discretion in the institution of prosecutions for forest offences in the Criminal Courts.

10. The earliest year for which administration reports have been examined for the purposes of this Resolution is 1886-87. That report gives the number of criminal prosecutions in 1885-86, and the figures for that year contrast with those for 1890-91 as follows:—

	1885-86.	1890-91
Northern Circle	747	1,433
Southern Circle	121	197

The percentage of failures in prosecuted cases is shown below:—

	1885-86.	1890-91.
Northern Circle	32·7	22·4
Southern Circle	29	26

11. But while the Forest officers have to a certain extent at any rate observed the orders of Government deprecating resort to prosecutions in the Criminal Courts, many of them have failed to act up to the spirit of the orders of Government, and have availed themselves far too freely of the powers entrusted to them, under section 67 of the Forest Act, of exacting compensation payments from persons who have offended, or are reasonably suspected of having offended, against the forest laws or the forest rules, under threat of prosecution in the event of their refusing to pay the compensation demanded. Attention was drawn to this subject in the Government review of last year's administration reports, and in reply to the calls then made the several reports now under immediate consideration have been submitted. This year's administration report, so far from giving evidence of improvement, shows a very large increase in the number of offences compounded, especially in the Northern Circle. The figures are as follows:—

	Number of cases compounded.		Amount realised.					
	1889-90.	1890-91.	1889-90.			1890-91.		
			Rs.	a.	p.	Rs.	a.	p.
Northern Circle.	6,485	9,917	17,074	15	1	28,854	10	7
Southern Circle.	674	1,048	2,793	0	0	3,209	0	0

Of the 9,917 cases compounded in 1890-91 in the Northern Circle, compensation was fixed at Re. 1 in 5,501 cases and at Rs. 2 in 1,536 other cases. In the Southern Circle, of the 1,048 cases compounded, compensation was fixed at Re. 1 and under in 578 cases, and between Re. 1 and Rs. 2 in 156 cases.

12. It is further evident from the detailed reports that it is the practice of the department to exact as compensation a good deal more than the actual value of the damage done. Full details are not given in many of the reports, but Mr. Betham (Násik) says that his practice is to levy in the case of a first offence "under five times the damage done to the forests," and for other than first offences "ten or fifteen times the damage." Mr. Desái (Khándesh) says that, in adjudicating damages, he takes into consideration —

(1) the sufficiency or otherwise of the damages assessed in the Panch náma;

(2) the wilfulness, or otherwise, of the offence;

(3) the general conduct of the villagers as regards forest offences;

(4) The gravity of the offence, notwithstanding the damage being nominal.

These considerations show plainly (*a*) that the department exacts compensation in a number of most trivial cases that would undoubtedly have been dismissed by the Magistrates as 'constituting no offence' under section 95 of the Penal Code, had they been taken into Court; (*b*) that the compensation exacted does not merely represent the value of the damage done, but includes something more that is of the nature of a fine for the offence committed, assessed, if Mr. Desái's practice is customary, upon the arbitrary basis of the estimation, in which the alleged offender and his neighbours are held by the Forest officer.

13. The numbers of complaints *disposed of* by officers empowered under section 67 and the numbers of such cases in which compensation was accepted, in 1890-91, were as follows :—

	Complaints disposed of.	Cases in which compensation was accepted.	Difference.
Northern Circle ...	9,917	9,762	155
Southern Circle ...	1,052	1,048	4

In the 4 cases of the Southern Circle in which compensation was not accepted, the complaints were dismissed. Mr. Shuttleworth does not say what happened in the 155 cases of the Northern Circle in which compensation was not accepted. They may have been prosecuted before Magistrates, or they may have been dismissed. A comparison of the results of cases disposed of by Forest officers, with the results of prosecutions instituted by them in the Criminal Courts as shown in paragraph 10 above, indicates apparently that the Forest officers are satisfied with less weighty evidence against the accused than would be required by the Magistrates in a great many cases.

Further, Mr. Shuttleworth states (paragraph 116 of his administration report) that "all the cases compounded in the Deccan divisions, with few exceptions, were of cattle trespass into reserved forests, and, in the Konkan divisions, were of theft of wood and minor forest produce." The cases taken into Court and the cases compounded are classified in Form No. 50 appended to the administration reports, as follows :—

		Misappropriation of forest produce.	Unauthorised grazing.	Other offences.
Northern Circle ...	A.	586	481	272
	B.	2,175	7,403	989
Total, Northern Circle ...		2,761	7,884	1,261
Southern Circle ...	A.	128	11	43
	B.	877	41	123
Total, Southern Circle ...		1,005	52	166

Note.—Cases taken into Court are placed in the columns headed A: those compounded are placed in the columns headed B.

14. It must be remembered that nearly the whole of the grazing area, and of the kurans and other grass lands, of the Deccan is now included in reserve forests, and that, excepting in the ghát tálukas, there is very little tree gr anywhere in the Deccan (Khándesh, Násik and Bijápur excepted). The fo abstract prepared from several parts of Mr. Shuttleworth's report fo

shows the main facts of the forest administration in the districts of Poona, Sátára, Sholápur and Ahmednagar for that year :—

Receipts.		Rs.	Offences.		Taken into Court.	Compounded.	Total.
			Poona District.				
Timber ...	...	26,214	Forest offences ...	...	474	1,707	2,181
Firewood and charcoal	...	10,514					
Grass and grazing	...	55,172	Cattle impounded...	...	...	...	44,436
Other forest revenue	...	7,268					
Total Forest Revenue	...	99,198					
Expenditure	...	1,02,724					
			Sátára District.				
Timber ...	...	8,967	Forest offences ...	...	37	147	184
Firewood and charcoal	...	2,493					
Grass and grazing	...	55,483	Cattle impounded...	...	...	...	28,280
Other forest revenue	...	3,721					
Total Forest Revenue	...	70,664					
Expenditure	...	66,193					
			Ahmednagar District.				
Timber ...	...	9,751	Forest offences ...	...	95	2,481	2,576
Firewood and charcoal	...	3,724					
Grass and grazing	...	39,039	Cattle impounded...	...	...	...	91,876
Other forest revenue	...	2,899					
Total Forest Revenue	...	55,413					
Expenditure	...	54,180					
			Sholápur District.				
Timber ...	...	485	Forest offences ...	...	97	1,553	1,650
Firewood and charcoal	...	1,970					
Grass and grazing	...	18,846	Cattle impounded...	...	...	...	43,621
Other forest revenue	...	312					
Total Forest Revenue	...	21,613					
Expenditure	...	31,071					

Abstract of results in Poona, Sátára, Ahmednagar and Sholápur Districts.

		Rs	Rs.
Revenue—			
Grass and grazing	... ...	1,68,540	
Timber and all other sources...	...	78,348	
Total Revenue	...		2,46,888
Total Expenditure	...		2,54,168
Deficit	...		7,280
Forest offences. .	... ...		6,591
Cattle impounded	... .		2,08.213